

131790

PHASE I AND PHASE II
REMEDIAL INVESTIGATION FINAL REPORT
RECTICON/ALLIED STEEL SITE
PARKER FORD, PENNSYLVANIA

Prepared by:

DAMES & MOORE



MARCH 29, 1993

VOLUME 3 OF 4

AR302764

APPENDIX H

AQUIFER TEST PROCEDURES (REPRODUCED FROM DAMES & MOORE'S
SEPTEMBER 10, 1991 CORRESPONDENCE TO USEPA)

AR302765

1.0 INTRODUCTION

The aquifer test will be conducted as part of the Remedial Investigation (RI) for the Recticon/Allied Steel site (Site) as specified in the EPA-approved RI Work Plan. The purpose of the aquifer test is to obtain site-specific information concerning the hydraulic characteristics of the bedrock aquifer and interconnection, if any, between the overburden and bedrock aquifers. This information will be used in the risk assessment and feasibility study to evaluate potential exposure and screen possible remedial alternatives, respectively.

The aquifer testing program will consist of five tasks: observation well installation, background water level measurements, variable rate (step drawdown) test, constant rate (pump) test, and a recovery test. Each of these tasks are described in Section 2.0.

2.0 SCOPE OF WORK

2.1 OVERVIEW

The pump test will be conducted using monitoring well BR-5 (see Figure A-1) as the pumping well. The observation wells will include the existing monitoring wells and two additional observation wells that are to be installed. The discharge water from the pumping well will be contained in tanker trailers and disposed of off-site.

2.2 TASK 1 - OBSERVATION WELL INSTALLATION

Two observation wells will be installed for the pump test. The wells will be installed downgradient of the pumping well (BR-5). The locations of the observation wells are shown on Figure A-1.

The wells will be installed using the air rotary drilling technique. The drill cuttings will be contained in 55-gallon drums and stored onsite.

The observation wells will be installed to a depth of approximately 70 feet, corresponding to the same depth as the pumping well. The wells will be cased from ground surface to a depth of 50 feet with open borehole from 50 to 70 feet.

The annular space around each well casing will be grouted with a cement grout containing 10% bentonite. The wells will extend to a height of approximately 1.5 feet above grade. A locking protective cap will be installed over each well to preclude unauthorized entry.

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The wells will be developed via pumping for a period of one hour or until the discharge is visibly free of sediment, whichever comes first. The development water will be pumped into a tanker trailer.

The location and elevation of the newly-installed observation wells will be surveyed to within 0.01 feet by a Pennsylvania-licensed land surveyor.

2.3 TASK 2 - BACKGROUND WATER LEVELS

Background water levels will be measured in at least one monitoring well to evaluate fluctuations in water levels and the impact of recharge due to precipitation during the pump test, if any. Water levels will be measured for the 48-hour period preceding the pump test, during the pump test, and for the 48-hour period following the pump test. The water levels will be recorded using an electronic datalogger and pressure transducer.

2.4 TASK 3 - VARIABLE RATE TEST

A variable rate drawdown test (step-drawdown test) will be conducted in the pumping well to determine an appropriate pump rate for the pump test. The pump rates will be determined in the field and will be based on the results of each successive step. Based on observations of well yields during ground water sampling, it is anticipated that the pump rates will range between 5 and 15 gallons per minute (gpm).

The step-drawdown test will be followed by a rest period of at least 12 hours to allow water levels in the aquifer to stabilize before the pump test is conducted.

2.5 TASK 4 - CONSTANT RATE PUMP TEST

The constant rate pump test (pump test) will consist of withdrawing ground water from the pumping well at the pumping rate determined from the results of the step-drawdown test and monitoring water levels in the pumping well and surrounding monitoring wells.

The discharge rate of the ground water pump will be held constant throughout the pump test. The pump rate will be recorded hourly. Water generated during the pump test will be discharged into tanker trailers. It is anticipated that the water will be disposed of at the Norristown POTW pending approval based on analytical results of the tanker contents.

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Water levels in the pumping well, the two observation wells, and monitoring wells OB-5, BR-3 and BR-8 will be measured using a datalogger and pressure transducers. The measurements will be made according to the following schedule:

<u>Time After Pumping Commences</u>	<u>Frequency of Measurement</u>
0-1 minute	Every 10 seconds
1-5 minutes	Every 15 seconds
5-15 minutes	Every 30 seconds
15-60 minutes	Every 5 minutes
60-120 minutes	Every 10 minutes
2-4 hours	Every 30 minutes
4-72 hours	Every hour

Water levels in the remaining monitoring wells will be measured hourly.

2.6 TASK 5 - RECOVERY TEST

At the conclusion of the 24-hour pump test, the ground water withdrawal pump will be shut off and ground water levels will be measured at the same frequencies and time intervals as the pump test. The recovery test will be terminated when ground water levels return to 95% of their original levels, taking into account fluctuations in water levels as monitored in the background well.

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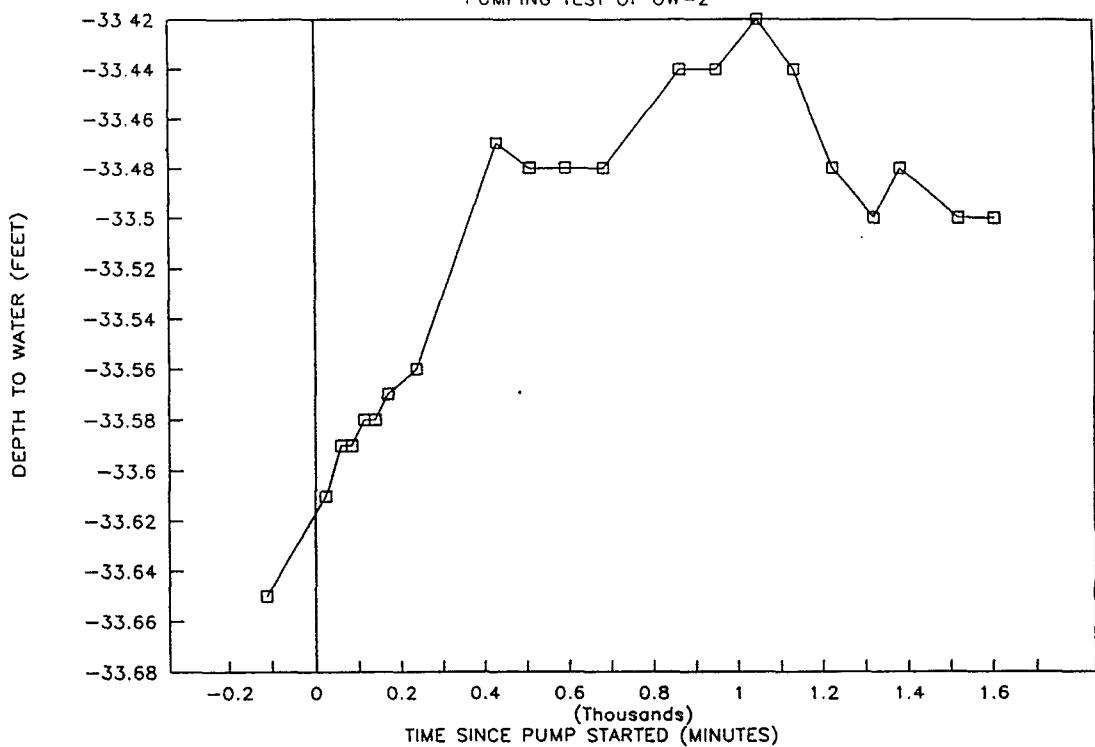
APPENDIX I

AQUIFER TEST DRAWDOWN-RECOVERY DATA AND HYDROGRAPHS

AR302769

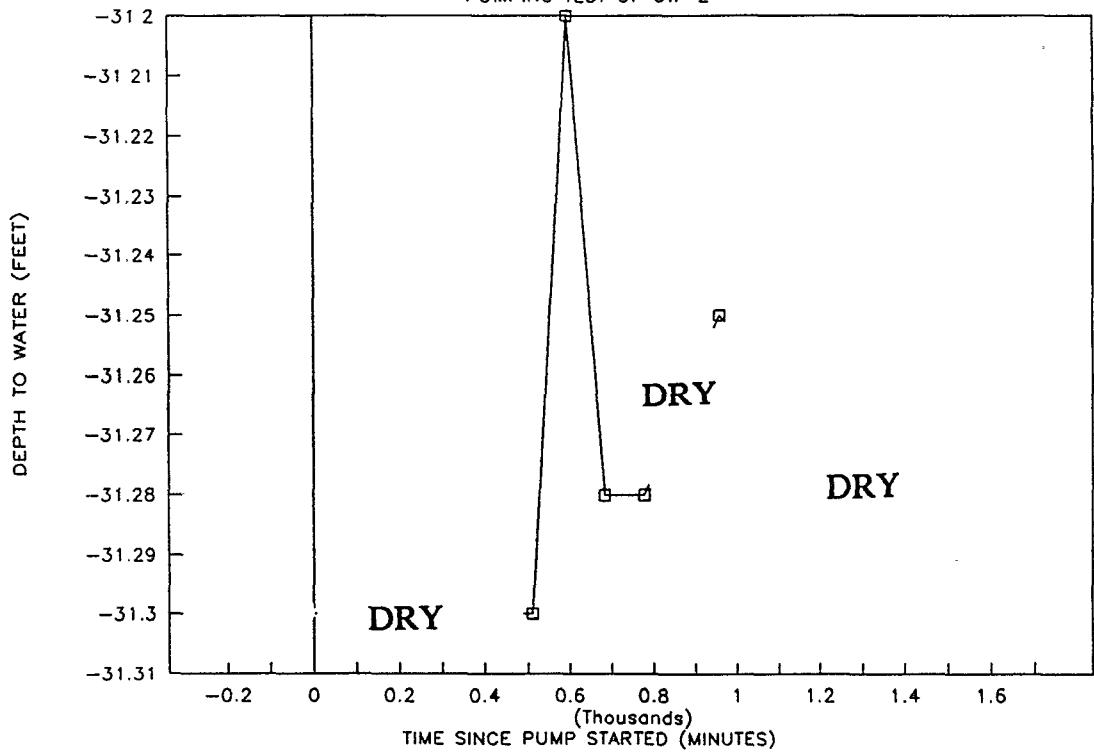
HYDROGRAPH OF BR-1

PUMPING TEST OF OW-2



HYDROGRAPH OF OB-1

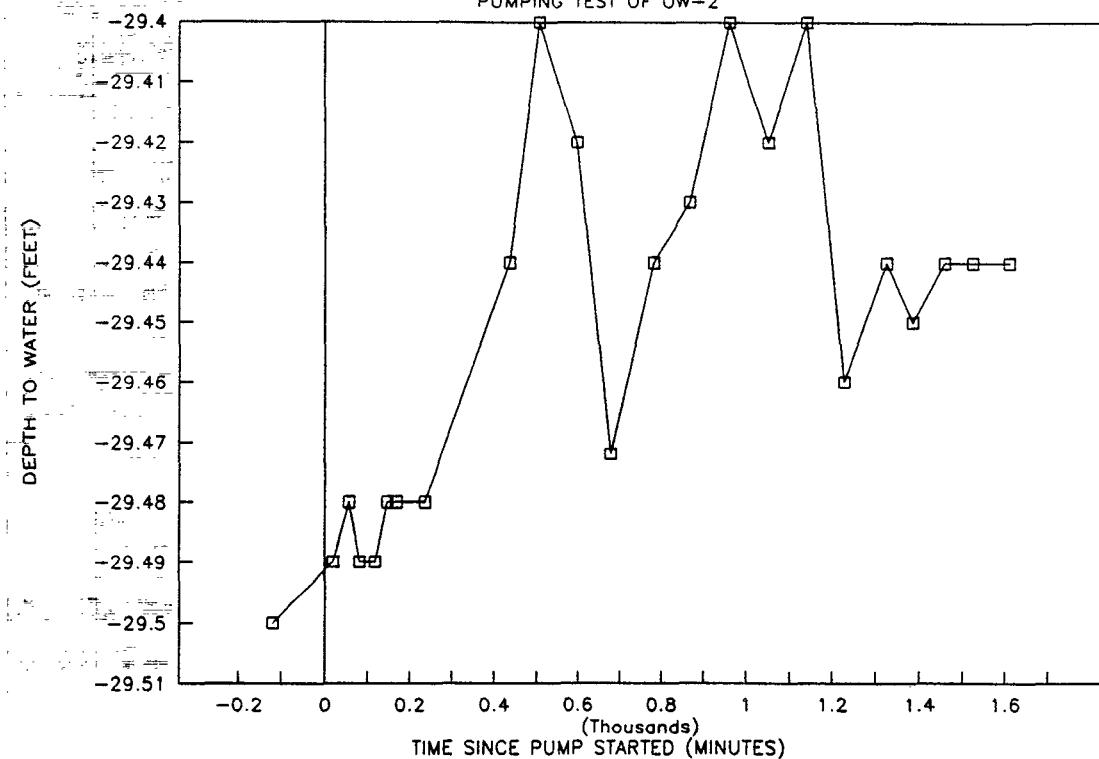
PUMPING TEST OF OW-2



AR302770

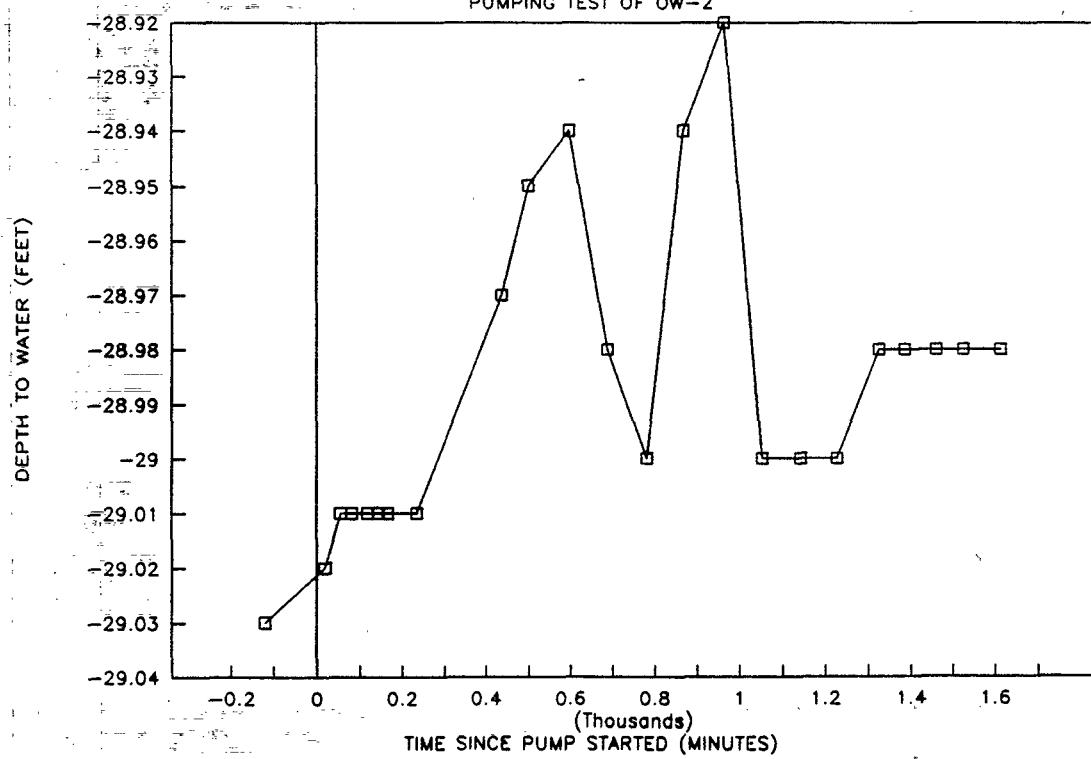
HYDROGRAPH OF BR-2

PUMPING TEST OF OW-2



HYDROGRAPH OF OB-2

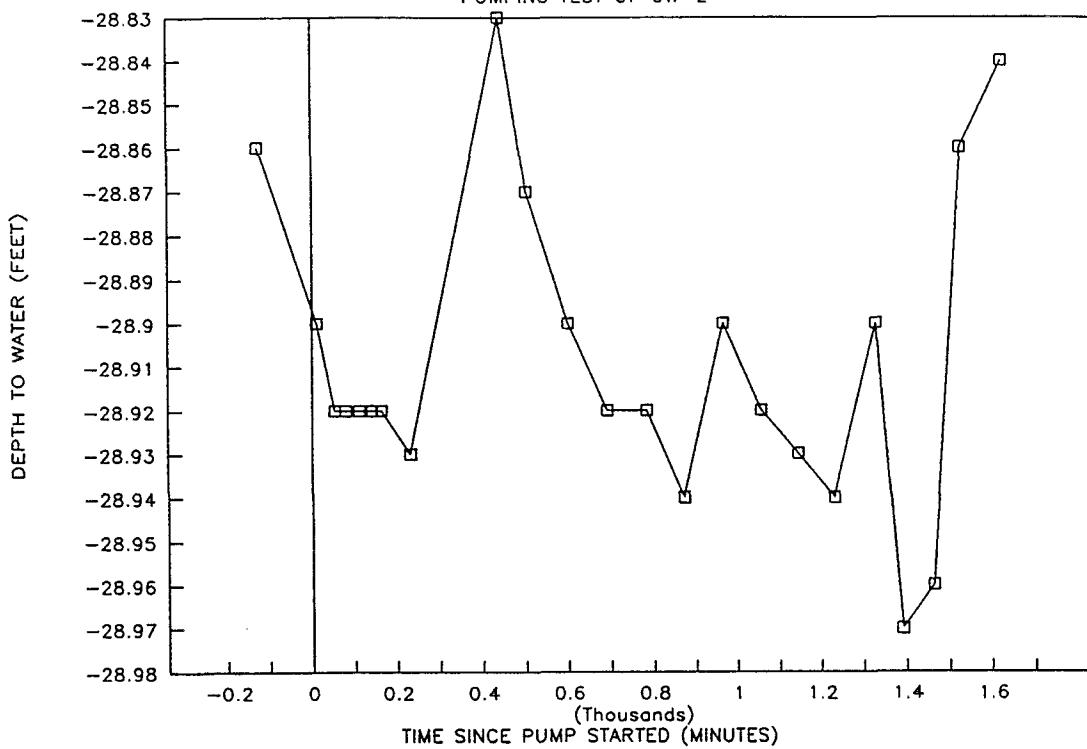
PUMPING TEST OF OW-2



AR302771

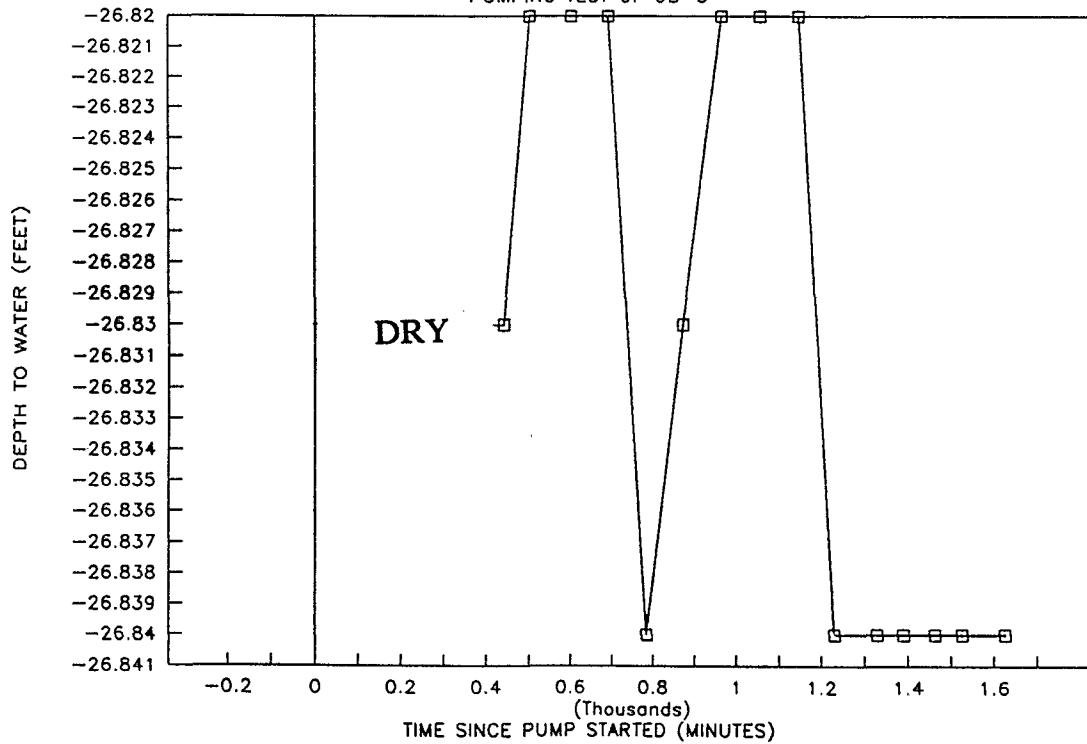
HYDROGRAPH OF BR-3

PUMPING TEST OF OW-2



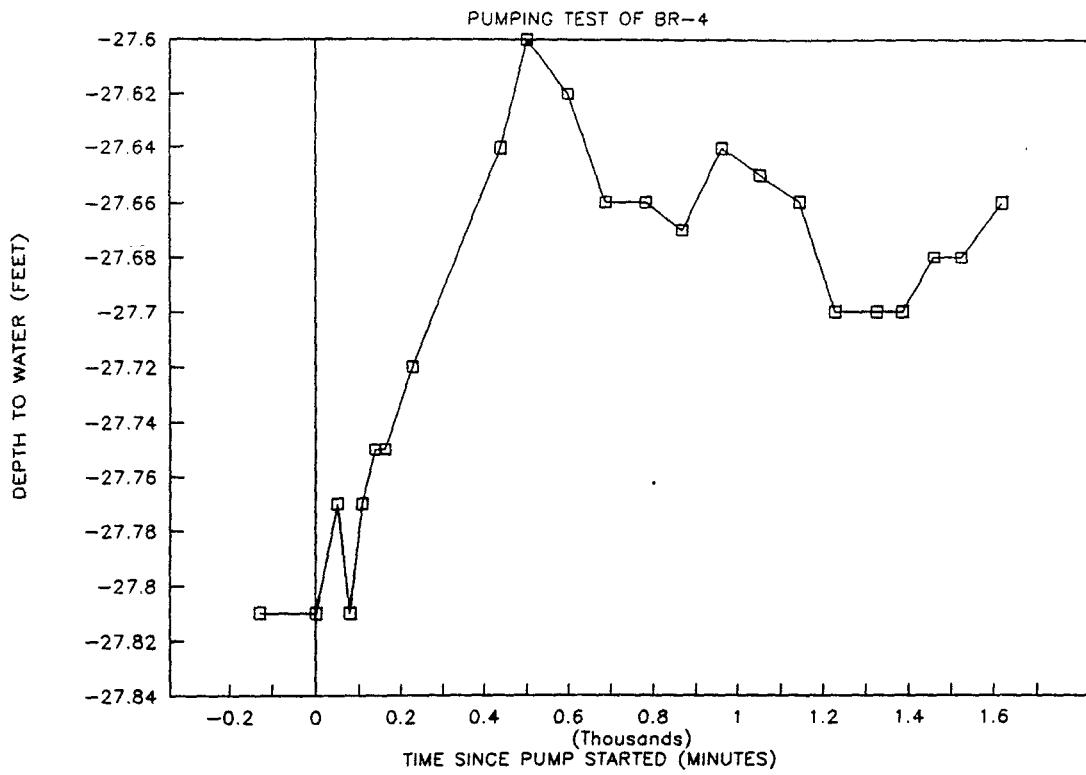
HYDROGRAPH OF OB-3

PUMPING TEST OF OB-3

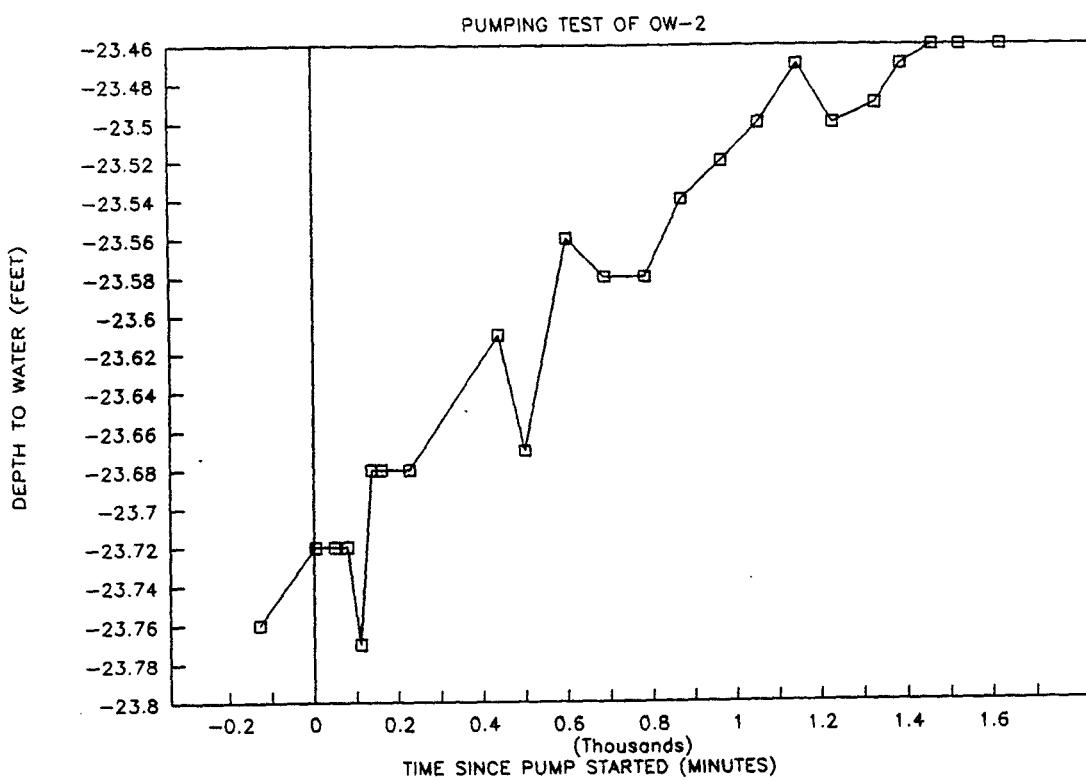


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HYDROGRAPH OF BR-4



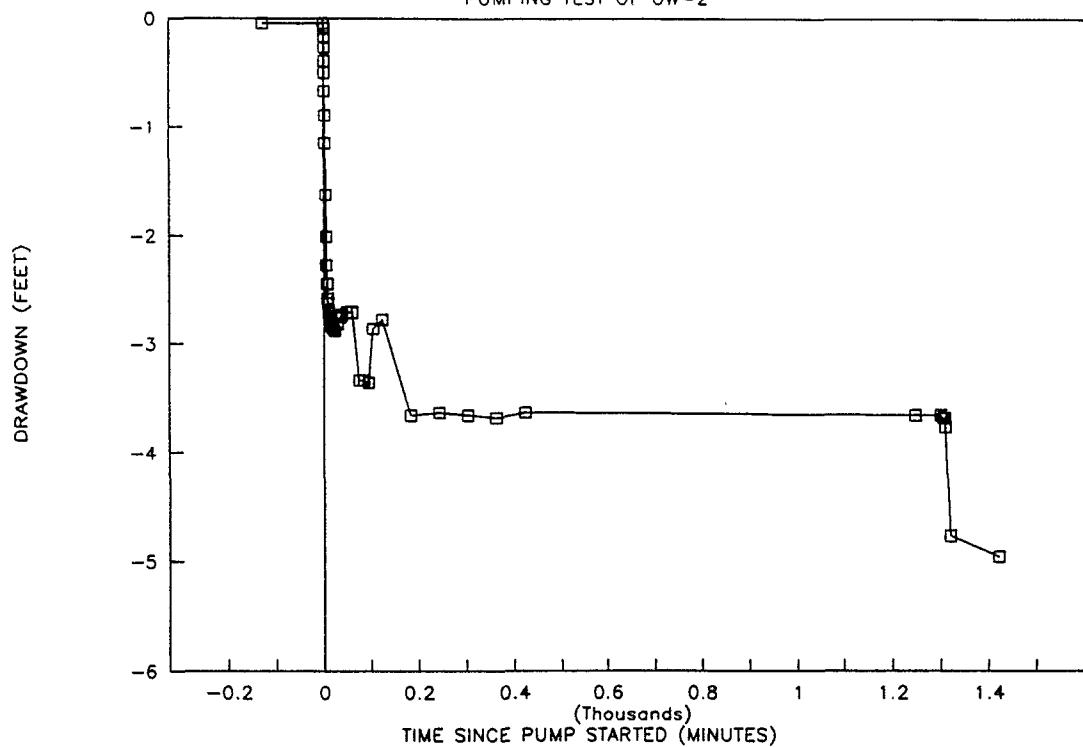
HYDROGRAPH OF OB-4



AR302773

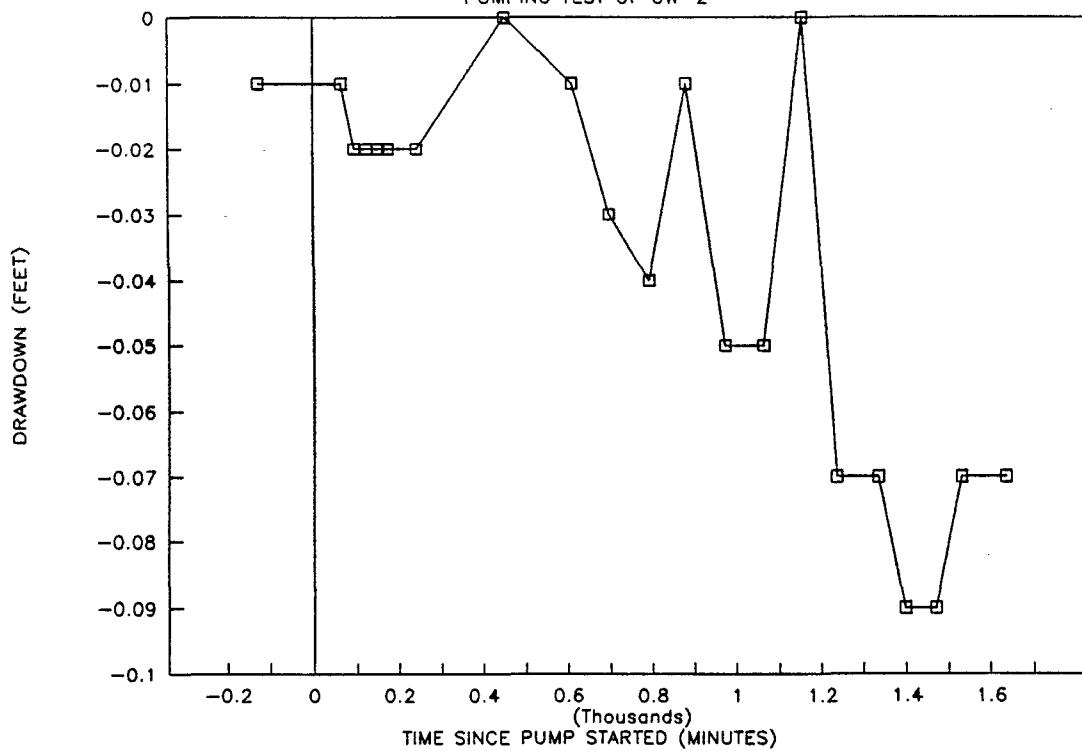
HYDROGRAPH OF BR-5

PUMPING TEST OF OW-2



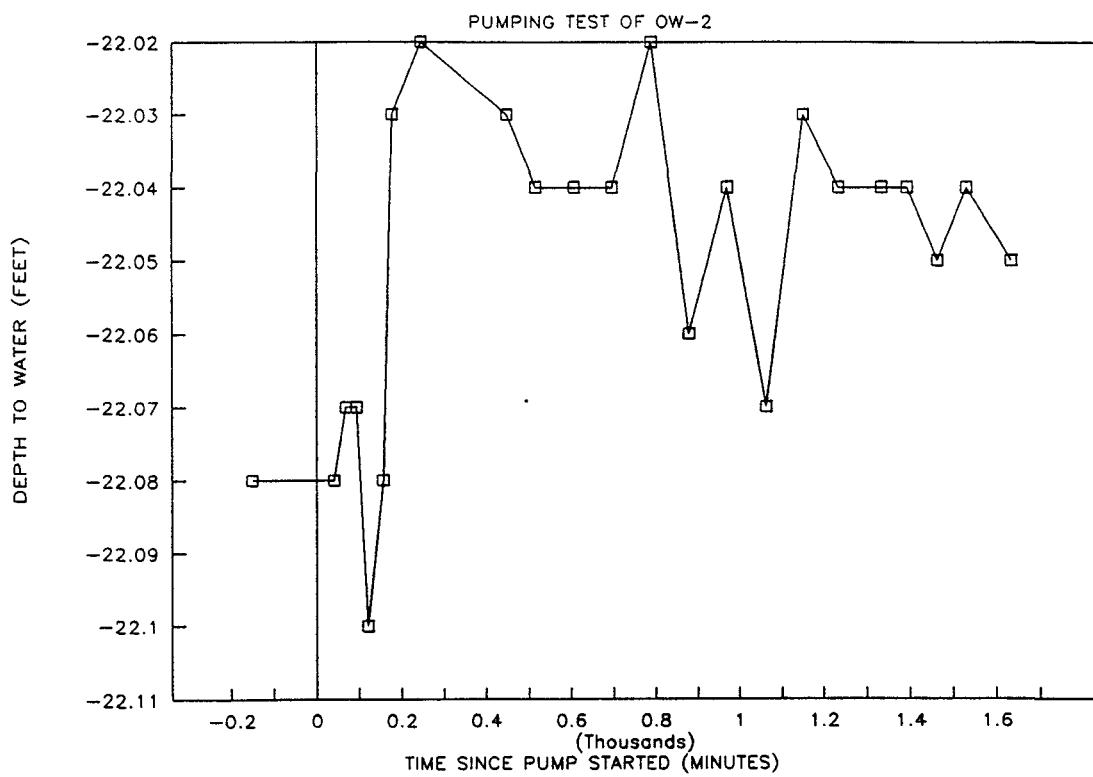
HYDROGRAPH OF OB-5

PUMPING TEST OF OW-2

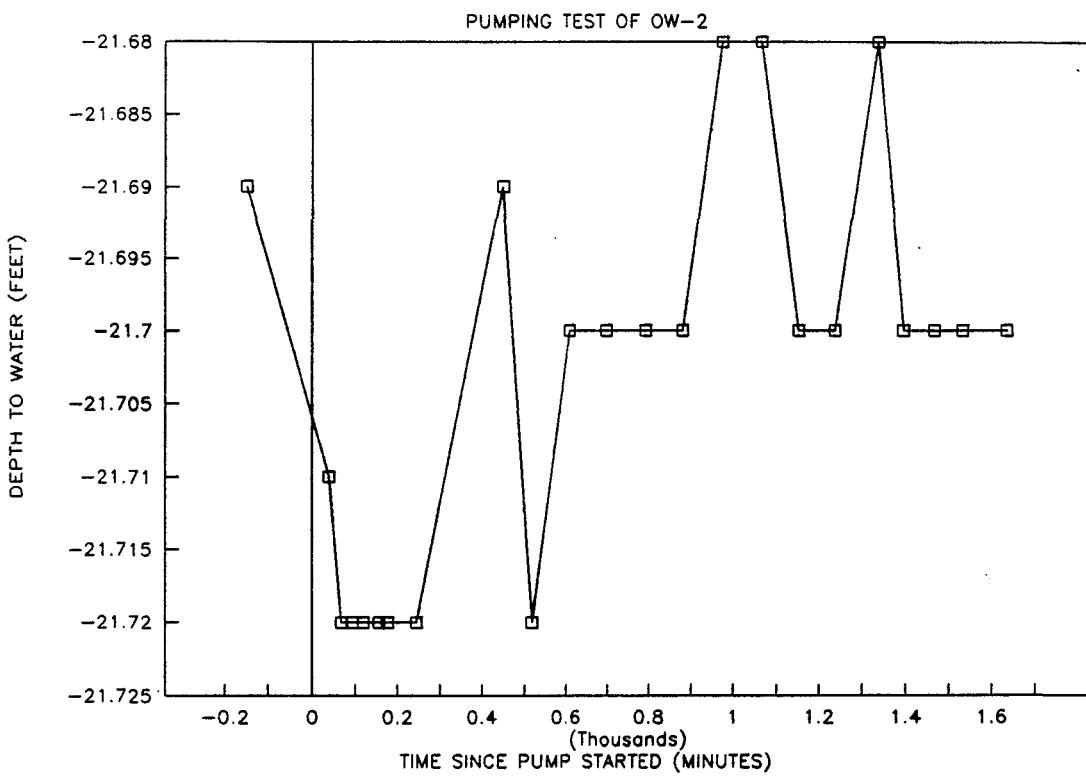


AR302774

HYDROGRAPH OF BR-6



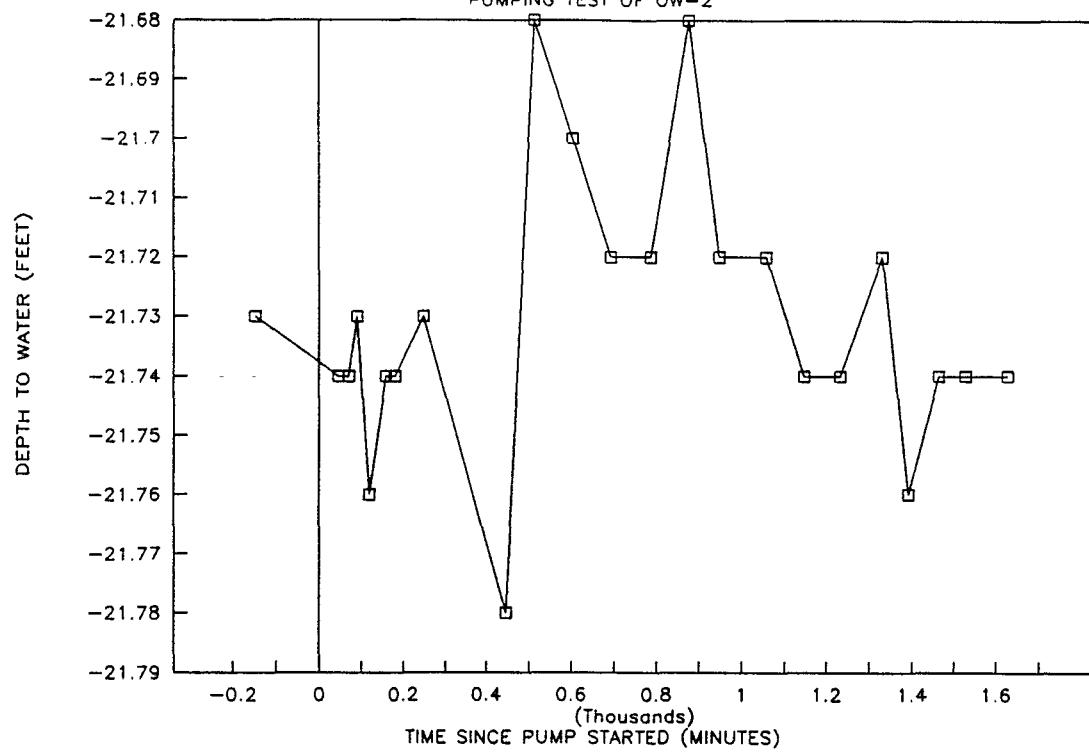
HYDROGRAPH OF OB-6



AR302775

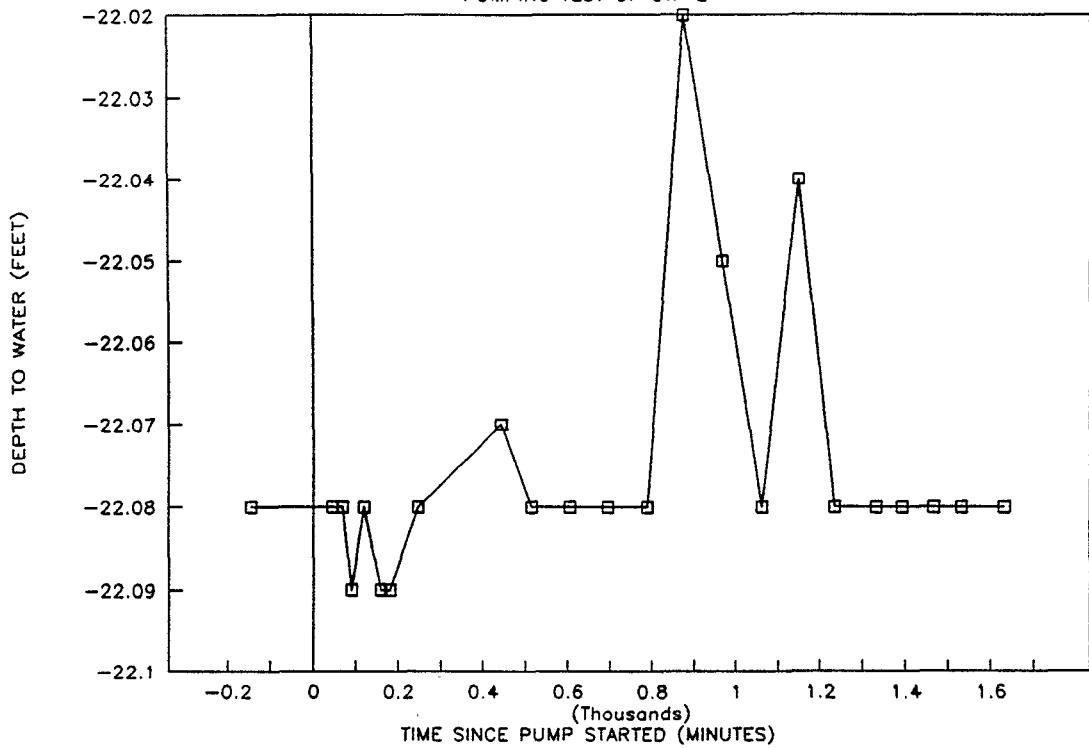
HYDROGRAPH OF BR-7

PUMPING TEST OF OW-2



HYDROGRAPH OF OB-7

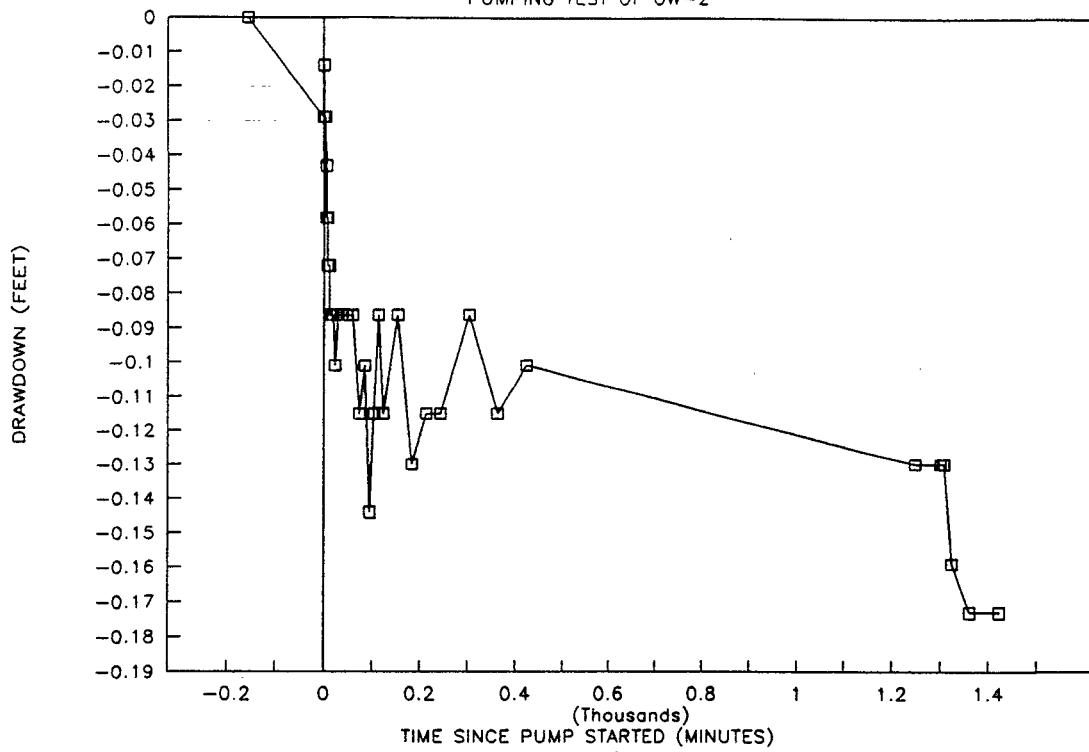
PUMPING TEST OF OW-2



AR302776

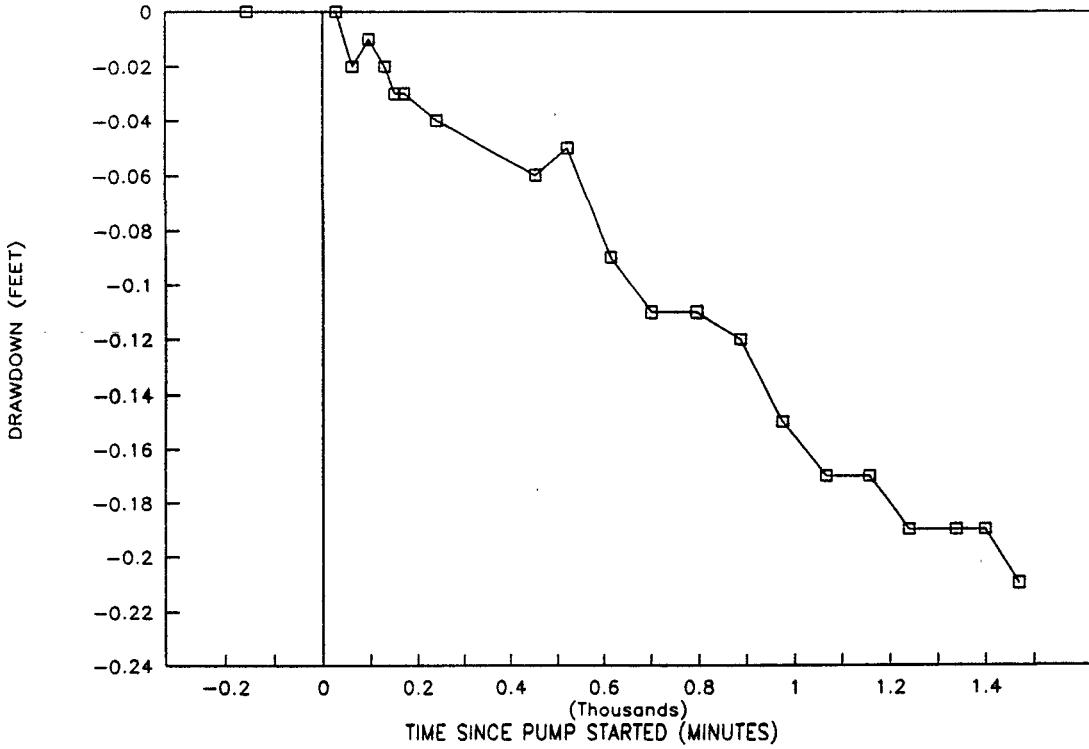
HYDROGRAPH OF BR-8

PUMPING TEST OF OW-2



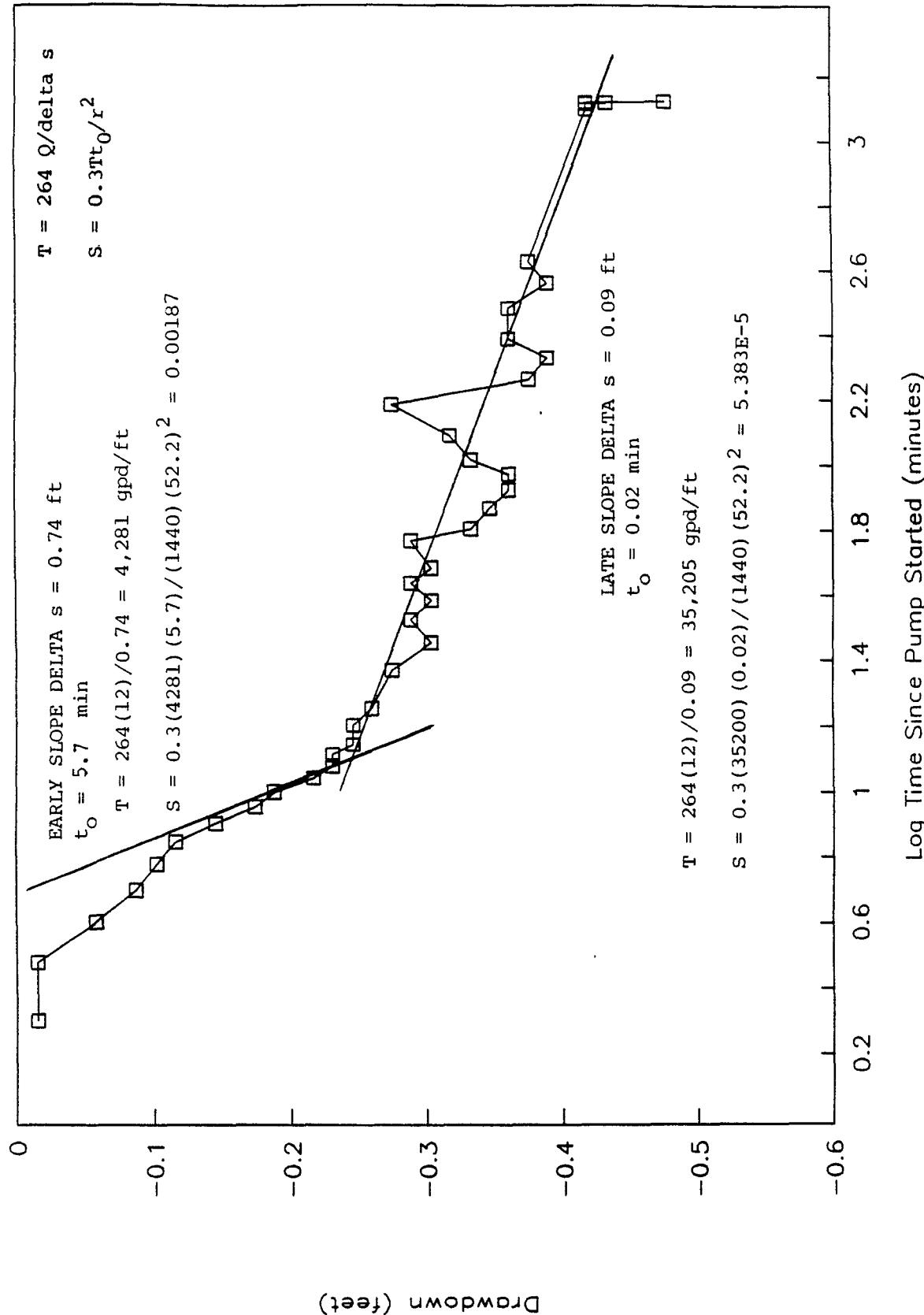
HYDROGRAPH OF OB-8

PUMPING TEST OF OW-2



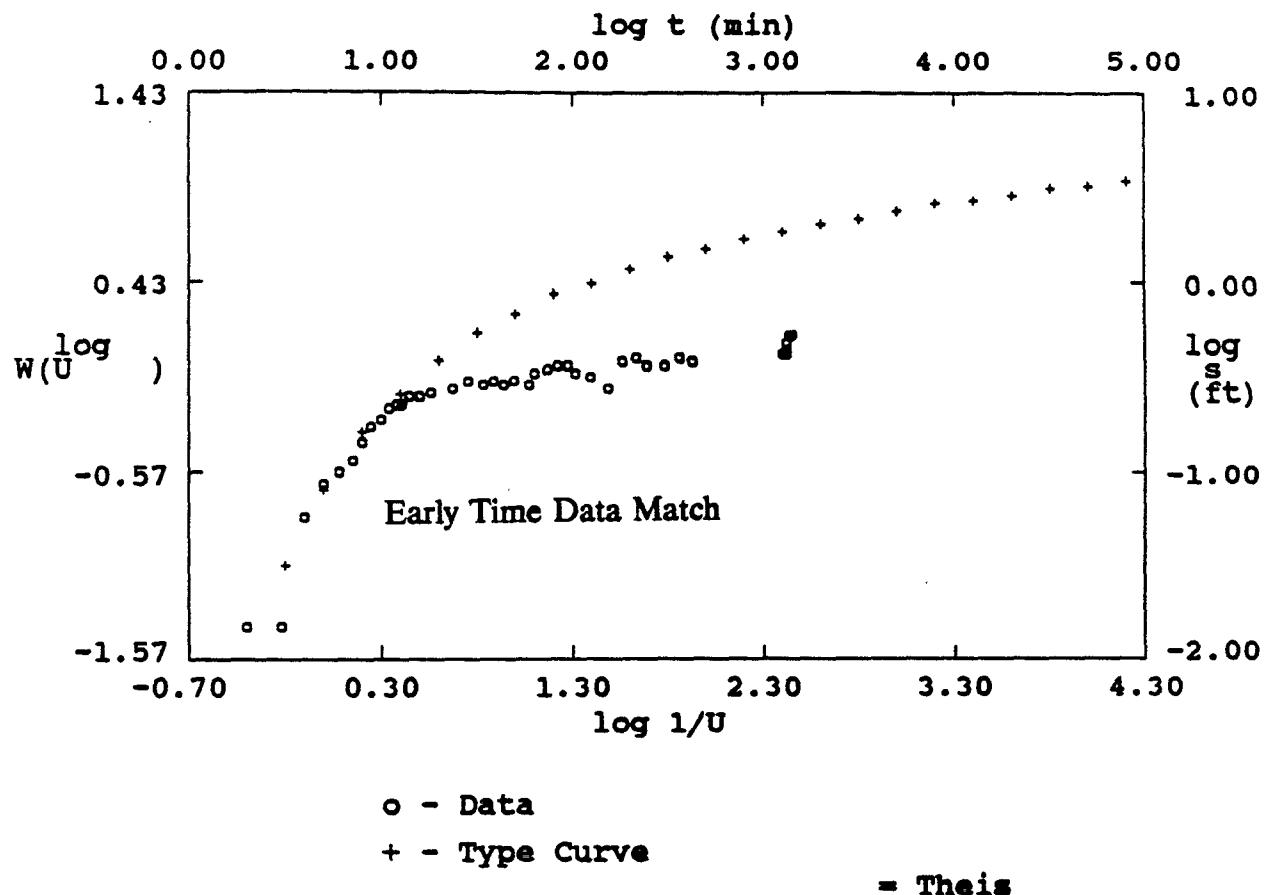
AR302777

Pump OW-2, Observe Drawdown OW-1



AR302778

Pump OW-2, Obs OW-1



SOLUTION

Transmissivity = 3.700E+0003 gpd/ft

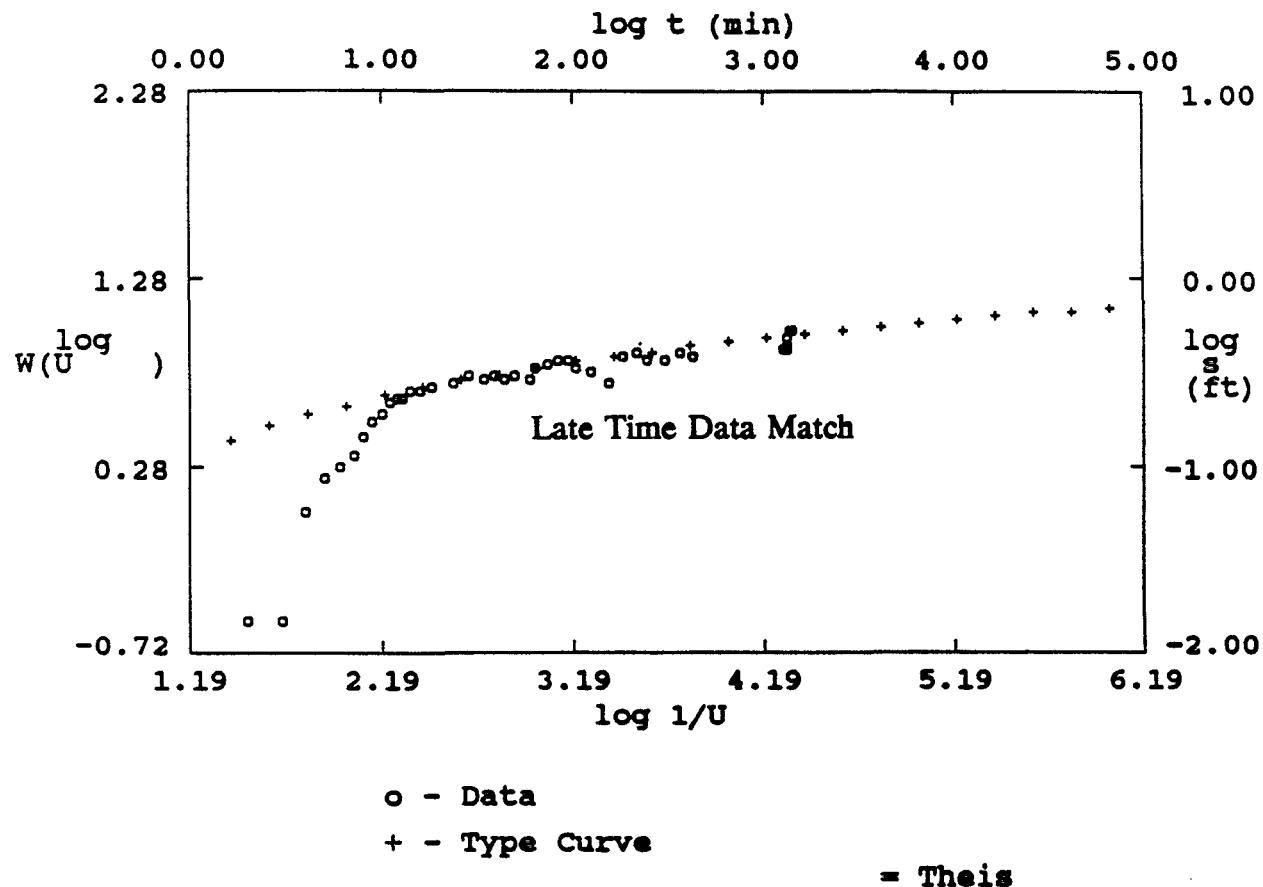
Aquifer Thick. =

Hydraulic Cond. =

Storativity = 2.528E-0003

AR302779

Pump OW-2, Obs OW-1



SOLUTION

Transmissivity = 2.620E+0004 gpd/ft
Aquifer Thick. =
Hydraulic Cond. =
Storativity = 2.305E-0004

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Data for Pump Test

Well Name: OW-1 Date of Test: 9-25-91
 Aquifer Thickness (b):
 Pumped Well Discharge(Q) = 12.000 gpm
 Radius of Pumping Well = 0.250 ft
 Distance of Observation Well from Pumping Well = 52.200 ft

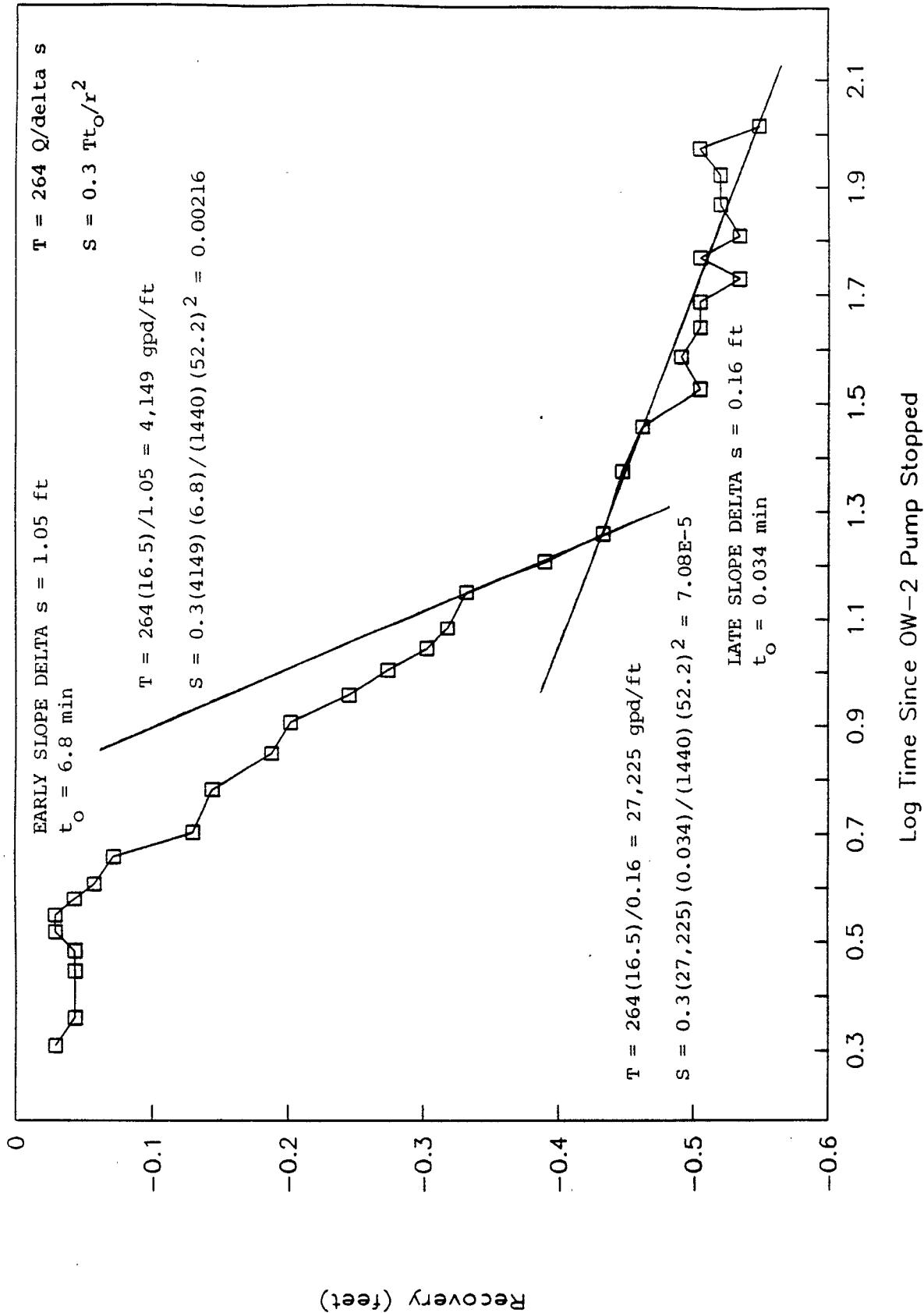
Entry No.	Time(t) (min)	Drawdown(s) (ft)	t / d^2 (min/sq ft)
1	2.000	0.015	7.340E-0004
2	3.000	0.015	1.101E-0003
3	4.000	0.058	1.468E-0003
4	5.000	0.087	1.835E-0003
5	6.000	0.102	2.202E-0003
6	7.000	0.116	2.569E-0003
7	8.000	0.145	2.936E-0003
8	9.000	0.174	3.303E-0003
9	10.000	0.188	3.670E-0003
10	11.000	0.217	4.037E-0003
11	12.000	0.231	4.404E-0003
12	13.000	0.231	4.771E-0003
13	14.000	0.246	5.138E-0003
14	16.000	0.246	5.872E-0003
15	18.000	0.260	6.606E-0003
16	23.500	0.275	8.624E-0003
17	28.500	0.304	1.046E-0002
18	33.500	0.289	1.229E-0002
19	38.500	0.304	1.413E-0002
20	43.500	0.289	1.596E-0002
21	48.500	0.304	1.780E-0002
22	58.500	0.289	2.147E-0002
23	63.500	0.333	2.330E-0002
24	73.500	0.347	2.697E-0002
25	83.500	0.361	3.064E-0002
26	93.500	0.361	3.431E-0002
27	103.500	0.333	3.798E-0002
28	123.500	0.318	4.532E-0002
29	153.500	0.275	5.633E-0002
30	183.500	0.376	6.734E-0002
31	213.500	0.390	7.835E-0002
32	243.500	0.361	8.936E-0002
33	303.500	0.361	1.114E-0001
34	363.500	0.390	1.334E-0001
35	423.500	0.376	1.554E-0001
36	1247.500	0.419	4.578E-0001
37	1300.674	0.419	4.773E-0001
38	1307.168	0.419	4.797E-0001
39	1308.742	0.434	4.803E-0001
40	1314.000	0.419	4.822E-0001
41	1320.251	0.477	4.845E-0001

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42	1352.000	0.520	4.962E-0001
43	1422.252	0.535	5.220E-0001

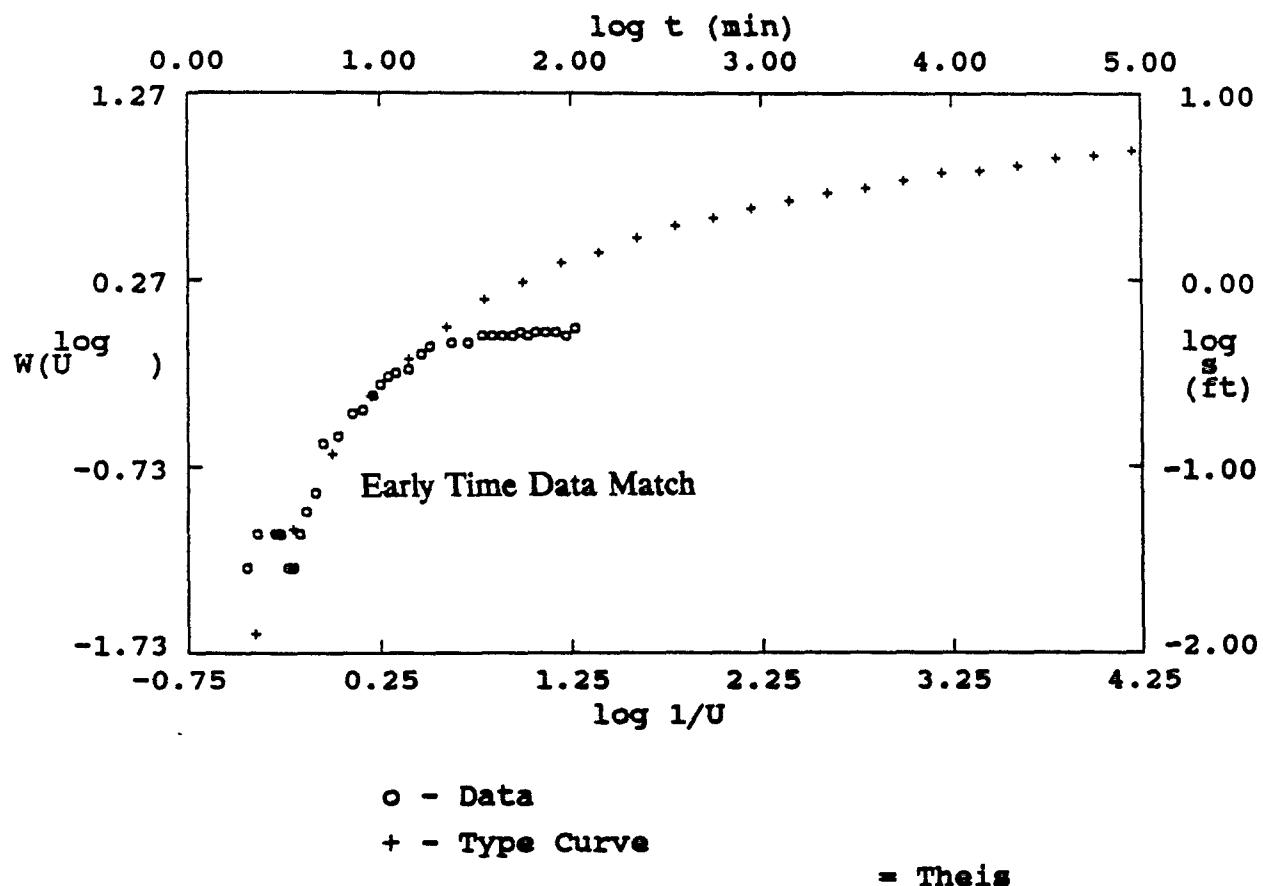
AR302782

Recover OW-2, Observe OW-1



AR302783

Recover OW-2, Obs OW-1(16.5gpm)



SOLUTION

Transmissivity = 3.520E+0003 gpd/ft

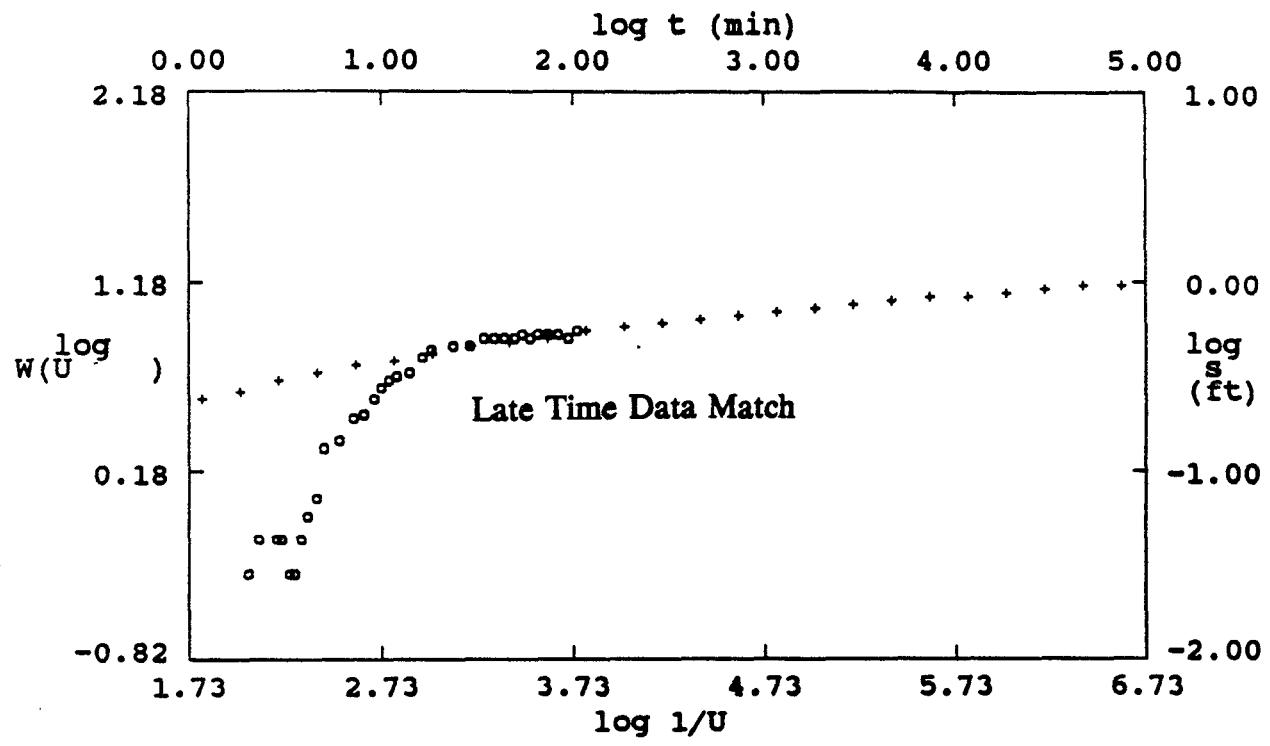
Aquifer Thick. =

Hydraulic Cond. =

Storativity = 2.698E-0003

AR302784

Recover OW-2, Obs OW-1(16.5gpm)



○ - Data

+ - Type Curve

Confined Leaky: $r/B = \text{Theis}$

SOLUTION

Transmissivity = 2.861E+0004 gpd/ft

Aquifer Thick. =

Hydraulic Cond. =

Storativity = 7.262E-0005

AR302785

Data for Pump Test

Well Name: OW-1(r)

Date of Test: 9-25-91

Aquifer Thickness (b):

Pumped Well Discharge(Q) = 16.500 gpm

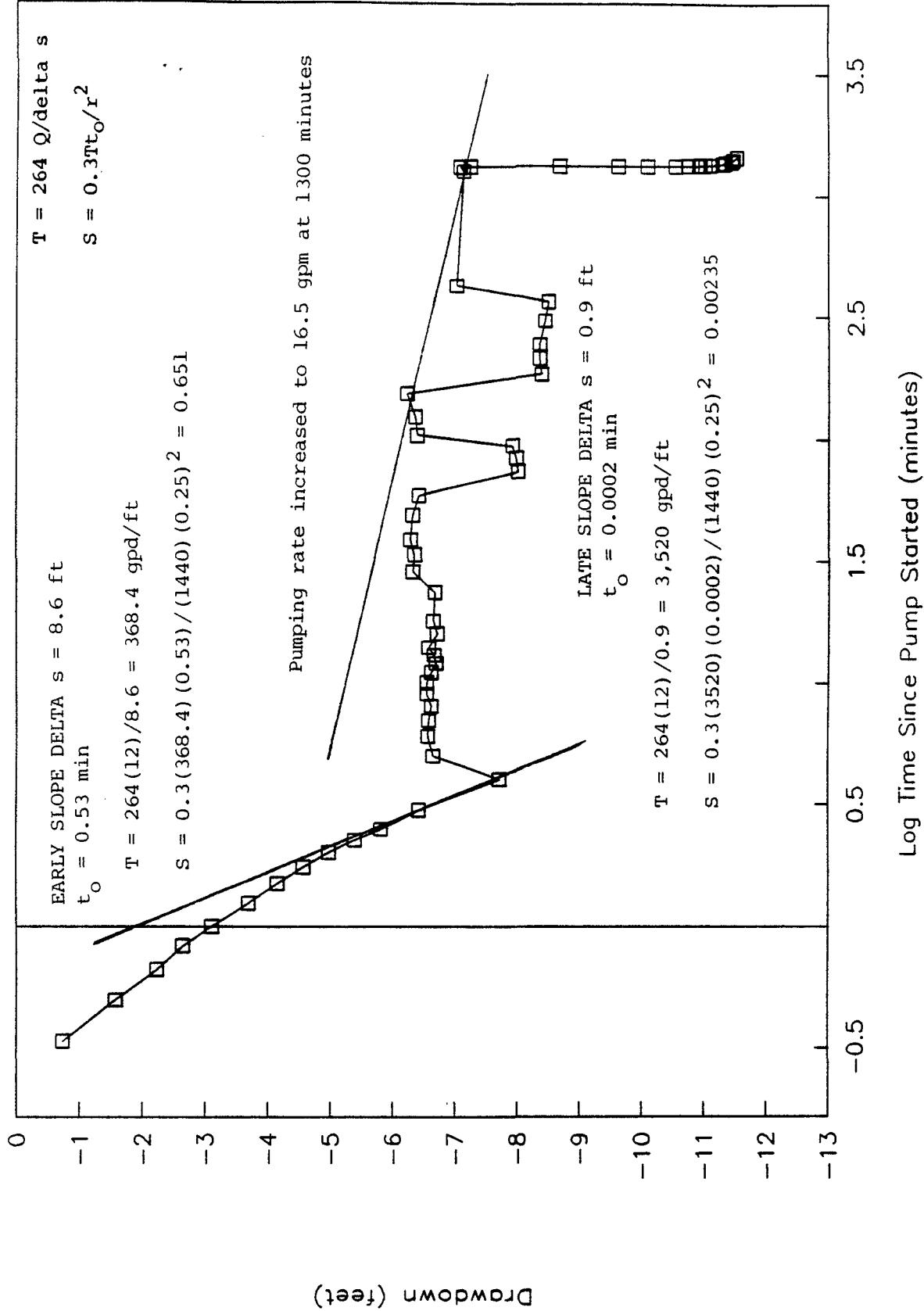
Radius of Pumping Well = 0.250 ft

Distance of Observation Well from Pumping Well = 52.200 ft

Entry No.	Time(t) (min)	Drawdown(s) (ft)	t / d^2 (min/sq ft)
1	2.036	0.029	7.472E-0004
2	2.286	0.043	8.389E-0004
3	2.787	0.043	1.023E-0003
4	3.036	0.043	1.114E-0003
5	3.287	0.029	1.206E-0003
6	3.536	0.029	1.298E-0003
7	3.785	0.043	1.389E-0003
8	4.036	0.058	1.481E-0003
9	4.536	0.072	1.665E-0003
10	5.037	0.130	1.849E-0003
11	6.037	0.144	2.216E-0003
12	7.035	0.188	2.582E-0003
13	8.036	0.202	2.949E-0003
14	9.036	0.245	3.316E-0003
15	10.054	0.274	3.690E-0003
16	11.036	0.303	4.050E-0003
17	12.036	0.318	4.417E-0003
18	14.036	0.332	5.151E-0003
19	16.035	0.390	5.885E-0003
20	18.036	0.433	6.619E-0003
21	23.536	0.447	8.638E-0003
22	28.536	0.462	1.047E-0002
23	33.535	0.505	1.231E-0002
24	38.535	0.491	1.414E-0002
25	43.605	0.505	1.600E-0002
26	48.536	0.505	1.781E-0002
27	53.535	0.534	1.965E-0002
28	58.535	0.505	2.148E-0002
29	64.205	0.534	2.356E-0002
30	73.535	0.520	2.699E-0002
31	83.536	0.520	3.066E-0002
32	93.536	0.505	3.433E-0002
33	103.536	0.549	3.800E-0002

AR302786

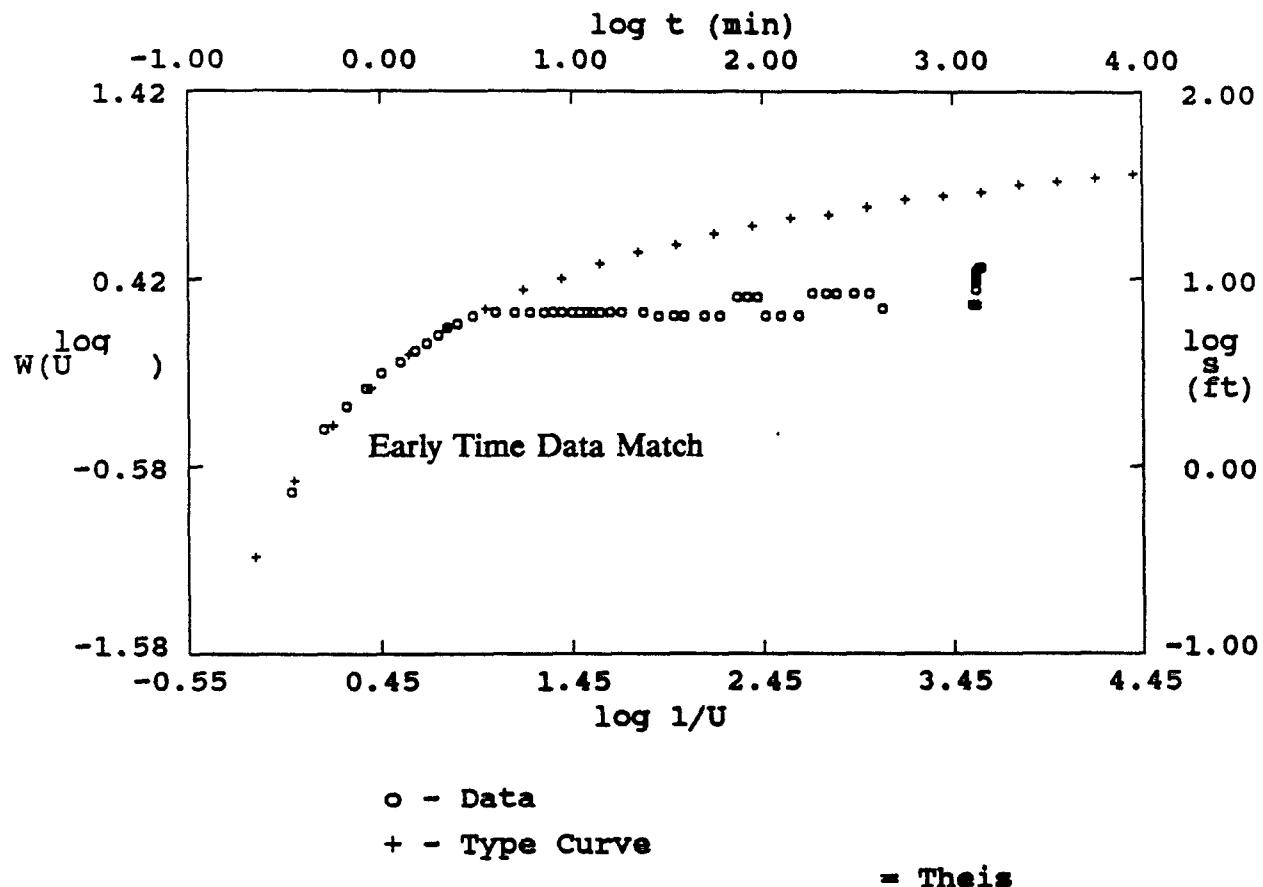
Pump OW-2, Observe OW-2



Drawdown (feet)

AR302787

Pump OW-2, Obs OW-2

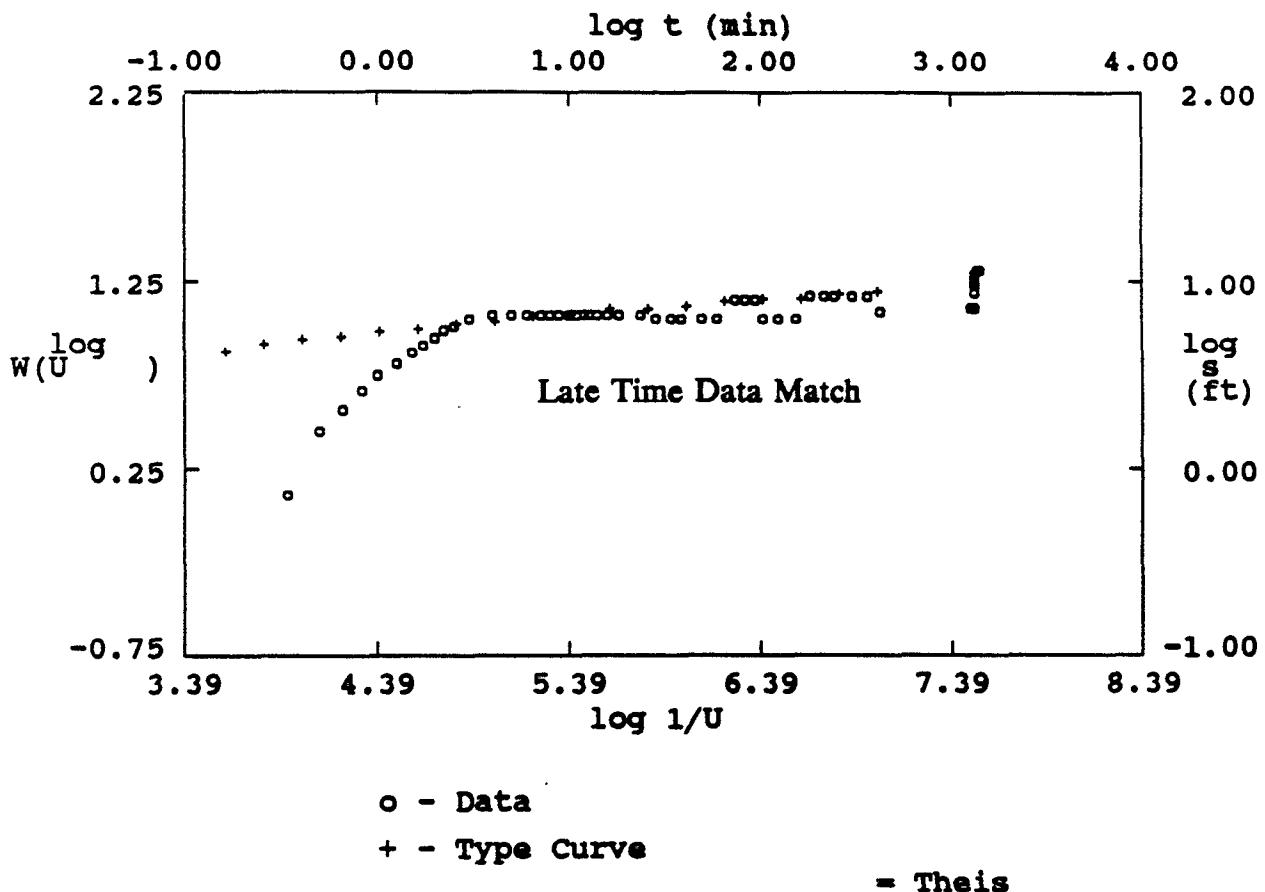


SOLUTION

Transmissivity = 3.616E+0002 gpd/ft
 Aquifer Thick. =
 Hydraulic Cond.=
 Storativity = 7.625E-0001

AR302788

Pump OW-2, Obs OW-2



SOLUTION

Transmissivity = 2.445E+0003 gpd/ft

Aquifer Thick. =

Hydraulic Cond. =

Storativity = 5.919E-0004

AR302789

Data for Pump Test

Well Name: OW-2 Date of Test: 9-25-91
 Aquifer Thickness (b):
 Pumped Well Discharge(Q) = 12.000 gpm
 Radius of Pumping Well = 0.250 ft
 Distance of Observation Well from Pumping Well = 0.250 ft

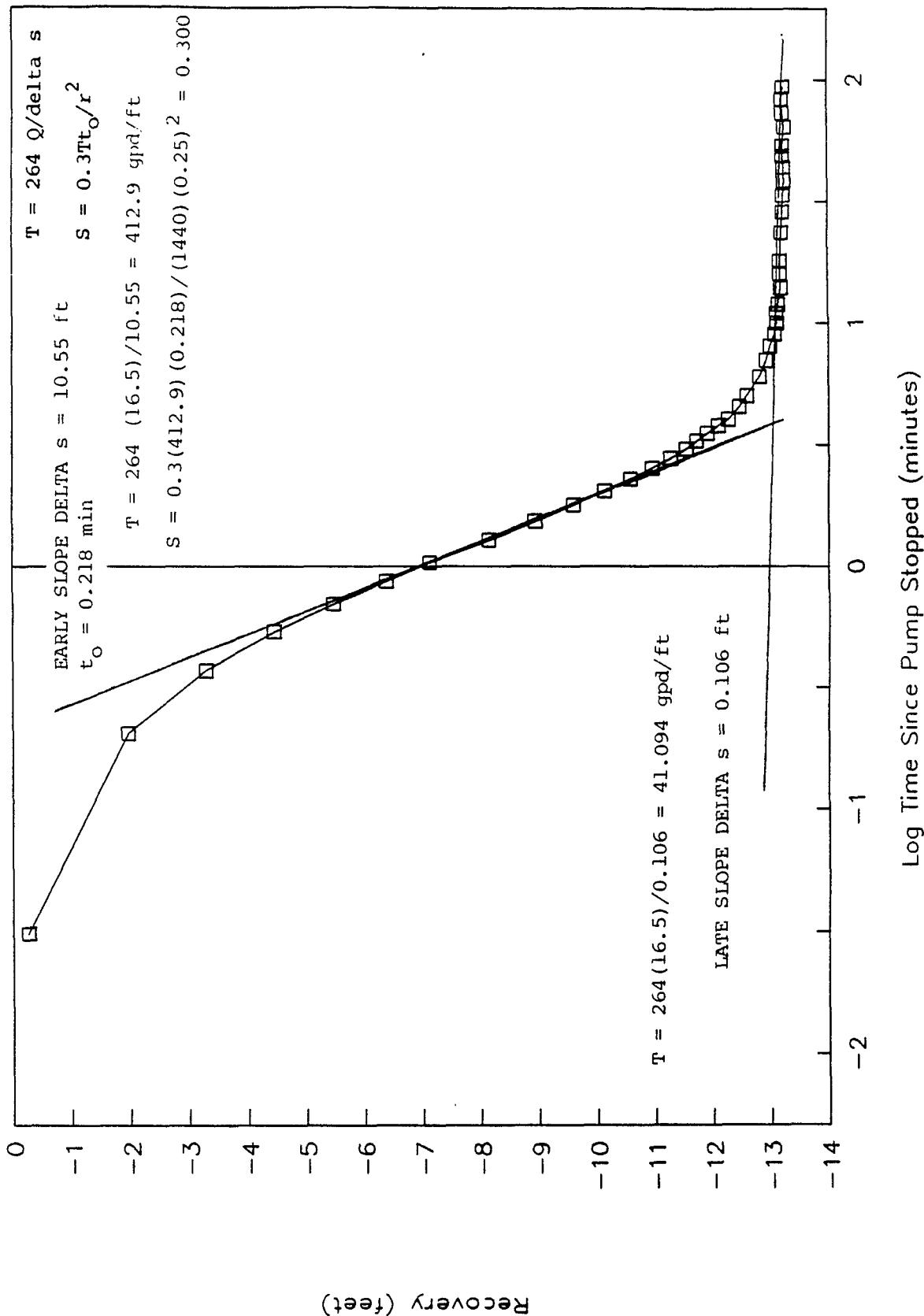
Entry No.	Time(t) (min)	Drawdown(s) (ft)	t / d^2 (min/sq ft)
1	0.336	0.736	5.368E+0000
2	0.497	1.573	7.952E+0000
3	0.668	2.136	1.069E+0001
4	0.834	2.642	1.334E+0001
5	1.002	3.104	1.603E+0001
6	1.250	3.696	2.000E+0001
7	1.500	4.158	2.400E+0001
8	1.750	4.574	2.799E+0001
9	2.000	4.981	3.200E+0001
10	2.249	5.399	3.598E+0001
11	2.500	5.818	4.000E+0001
12	3.000	6.424	4.800E+0001
13	4.000	6.713	6.400E+0001
14	5.000	6.655	8.000E+0001
15	6.000	6.569	9.600E+0001
16	7.000	6.583	1.120E+0002
17	8.000	6.626	1.280E+0002
18	9.000	6.554	1.440E+0002
19	10.000	6.554	1.600E+0002
20	11.000	6.626	1.760E+0002
21	12.000	6.699	1.920E+0002
22	13.000	6.670	2.080E+0002
23	14.000	6.583	2.240E+0002
24	16.000	6.713	2.560E+0002
25	18.000	6.655	2.880E+0002
26	23.500	6.684	3.760E+0002
27	28.500	6.323	4.560E+0002
28	33.500	6.352	5.360E+0002
29	38.500	6.294	6.160E+0002
30	48.500	6.323	7.760E+0002
31	58.500	6.424	9.360E+0002
32	73.500	8.012	1.176E+0003
33	83.500	7.984	1.336E+0003
34	93.500	7.926	1.496E+0003
35	103.500	6.395	1.656E+0003
36	123.500	6.367	1.976E+0003
37	153.500	6.237	2.456E+0003
38	183.500	8.388	2.936E+0003
39	213.500	8.359	3.416E+0003
40	243.500	8.359	3.896E+0003
41	303.500	8.446	4.856E+0003

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42	363.500	8.503	5.816E+0003
43	423.500	7.031	6.776E+0003
44	1247.500	7.132	1.996E+0004
45	1300.700	7.088	2.081E+0004
46	1307.168	7.088	2.091E+0004
47	1308.700	7.247	2.094E+0004
48	1309.752	8.677	2.096E+0004
49	1311.000	9.615	2.098E+0004
50	1312.000	10.091	2.099E+0004
51	1314.000	10.539	2.102E+0004
52	1316.000	10.741	2.106E+0004
53	1318.752	10.914	2.110E+0004
54	1320.251	10.929	2.112E+0004
55	1323.751	11.015	2.118E+0004
56	1327.250	11.102	2.124E+0004
57	1337.250	11.304	2.140E+0004
58	1347.251	11.290	2.156E+0004
59	1357.251	11.333	2.172E+0004
60	1367.251	11.434	2.188E+0004
61	1392.000	11.463	2.227E+0004
62	1422.252	11.521	2.276E+0004

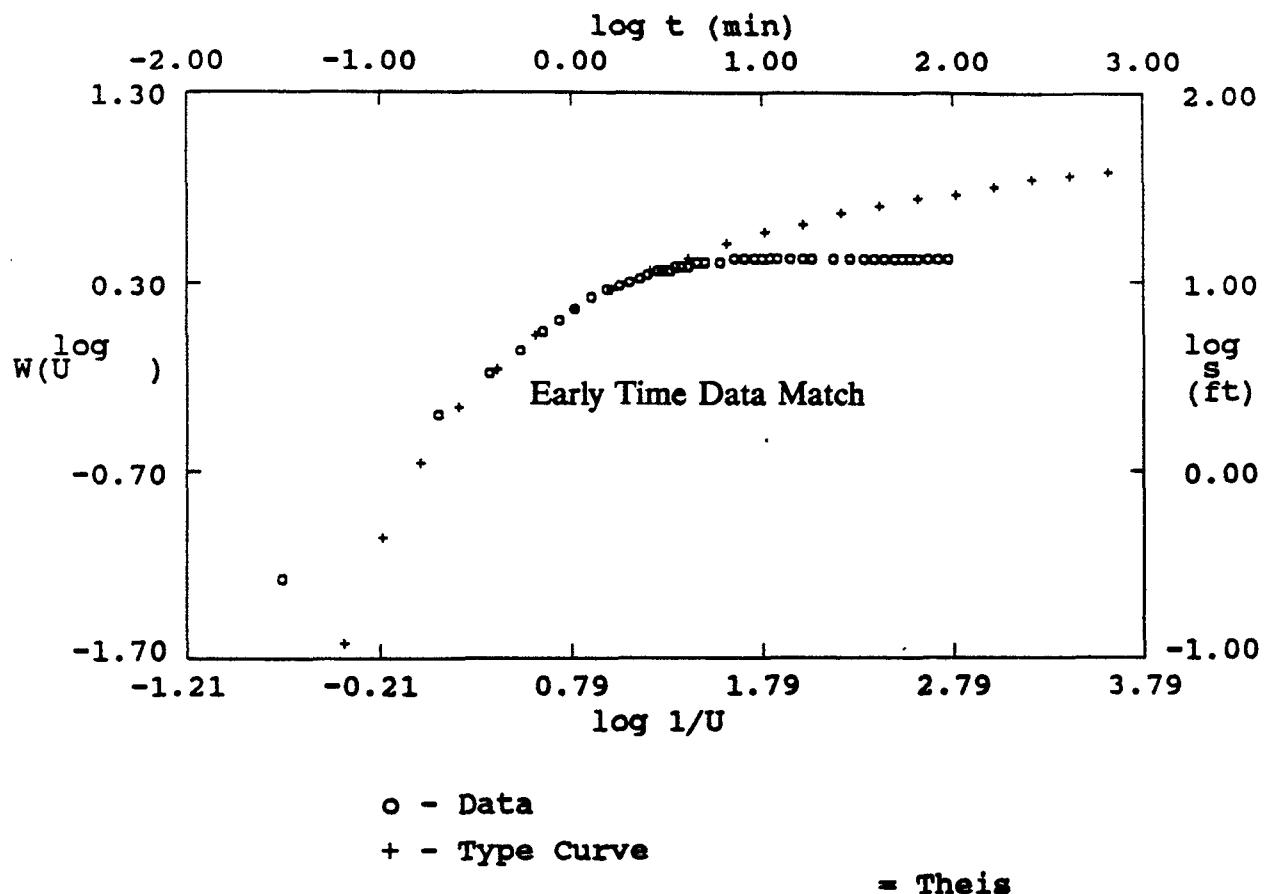
AR302791

Recover OW-2, Observe OW-2



AR302792

Recover OW-2, Obs OW-2 (16.5gpm)



SOLUTION

Transmissivity = 3.772E+0002 gpd/ft

Aquifer Thick. =

Hydraulic Cond. =

Storativity = 3.635E-0001

AR302793

Data for Pump Test

Well Name: OW-2(r2)

Date of Test: 9-25-91

Aquifer Thickness (b):

Pumped Well Discharge(Q) = 16.500 gpm

Radius of Pumping Well = 0.250 ft

Distance of Observation Well from Pumping Well = 0.250 ft

Entry No.	Time(t) (min)	Drawdown(s) (ft)	t / d^2 (min/sq ft)
1	0.031	0.260	4.960E-0001
2	0.203	1.963	3.248E+0000
3	0.370	3.292	5.920E+0000
4	0.538	4.461	8.608E+0000
5	0.702	5.472	1.123E+0001
6	0.869	6.381	1.390E+0001
7	1.038	7.132	1.661E+0001
8	1.285	8.143	2.056E+0001
9	1.536	8.937	2.458E+0001
10	1.787	9.601	2.859E+0001
11	2.036	10.135	3.258E+0001
12	2.286	10.583	3.658E+0001
13	2.535	10.958	4.056E+0001
14	2.787	11.276	4.459E+0001
15	3.036	11.550	4.858E+0001
16	3.280	11.723	5.248E+0001
17	3.536	11.911	5.658E+0001
18	3.785	12.098	6.056E+0001
19	4.036	12.272	6.458E+0001
20	4.536	12.459	7.258E+0001
21	5.037	12.589	8.059E+0001
22	6.037	12.806	9.659E+0001
23	7.035	12.921	1.126E+0002
24	8.036	12.994	1.286E+0002
25	9.036	13.066	1.446E+0002
26	10.054	13.109	1.609E+0002
27	11.036	13.109	1.766E+0002
28	12.036	13.138	1.926E+0002
29	14.036	13.181	2.246E+0002
30	16.035	13.167	2.566E+0002
31	18.036	13.167	2.886E+0002
32	23.536	13.196	3.766E+0002
33	28.536	13.210	4.566E+0002
34	33.535	13.225	5.366E+0002
35	38.535	13.239	6.166E+0002
36	43.605	13.239	6.977E+0002
37	48.536	13.225	7.766E+0002
38	53.535	13.225	8.566E+0002
39	58.535	13.225	9.366E+0002
40	64.205	13.253	1.027E+0003
41	73.530	13.225	1.176E+0003

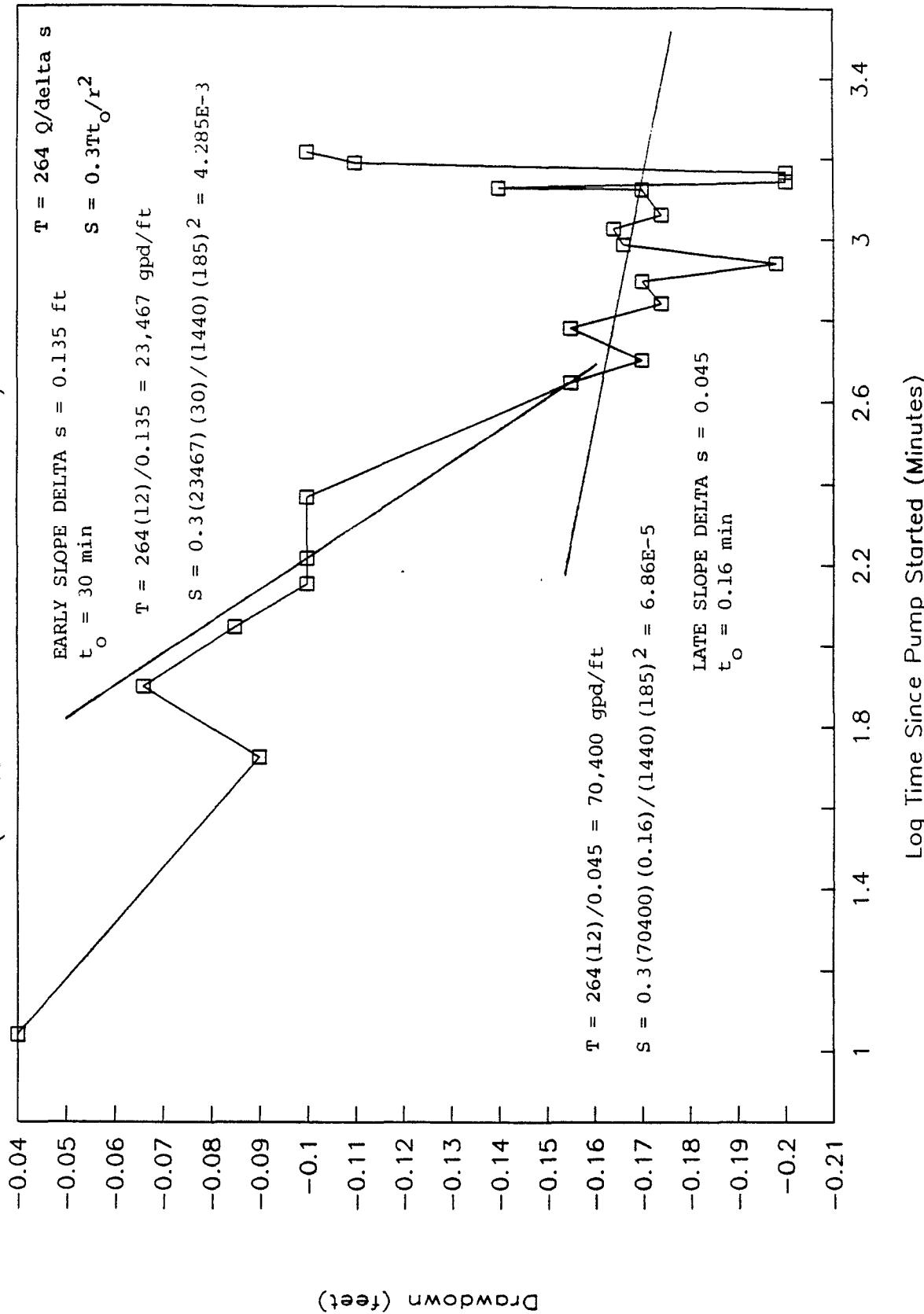
AR302794

42	83.536	13.210	1.337E+0003
43	93.536	13.239	1.497E+0003

AR302795

Pump OW-2, Observe BR-3

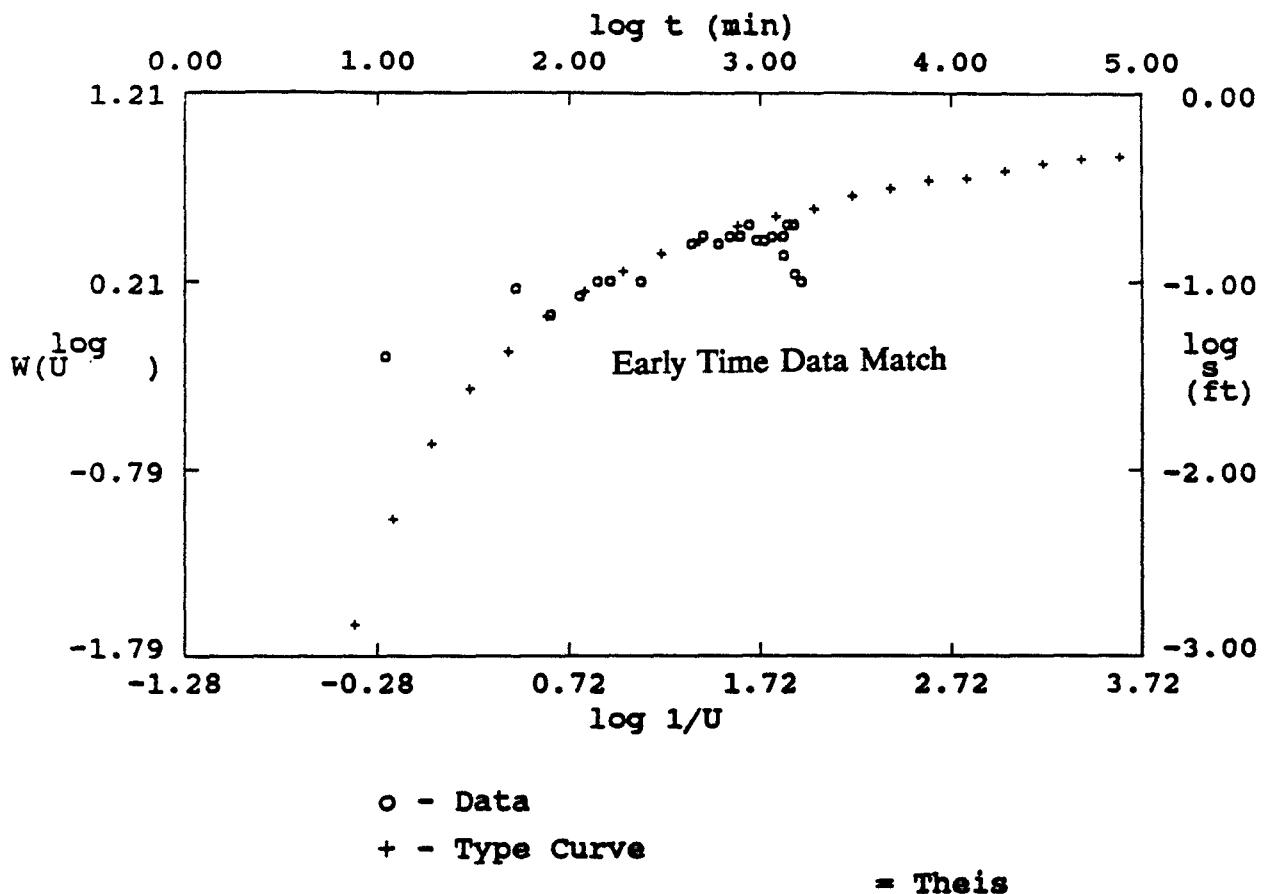
(corrected for effect of off-site well)



Drawdown (feet)

AR302796

Pump OW-2, Obs BR-3 (corrected)

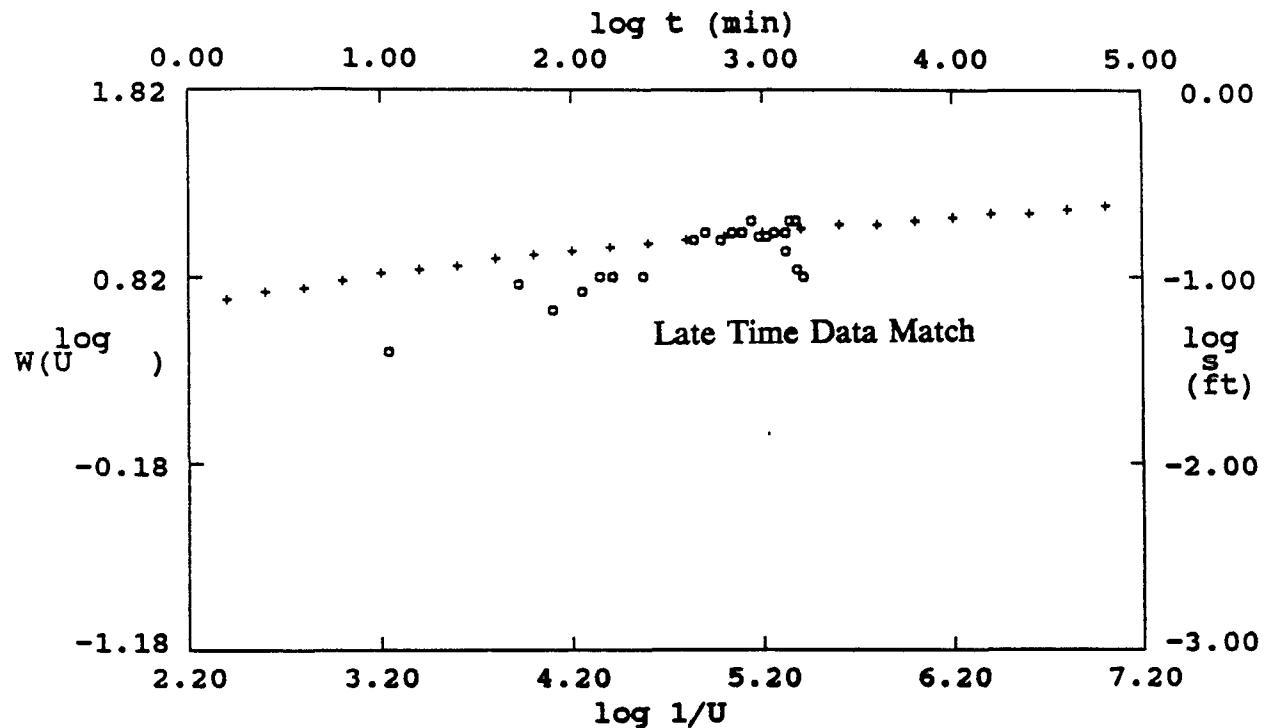


SOLUTION

Transmissivity = 2.230E+0004 gpd/ft
 Aquifer Thick. =
 Hydraulic Cond. =
 Storativity = 4.611E-0003

AR302797

Pump OW-2, Obs BR-3 (corrected)



o - Data

+ - Type Curve

Confined Leaky: $r/B = \text{Theis}$

SOLUTION

Transmissivity = 9.083E+0004 gpd/ft

Aquifer Thick. =

Hydraulic Cond. =

Storativity = 6.220E-0006

AR302798

Data for Pump Test

Well Name: BR-3(c)

Date of Test: 9-25-91

Aquifer Thickness (b):

Pumped Well Discharge(Q) = 12.000 gpm

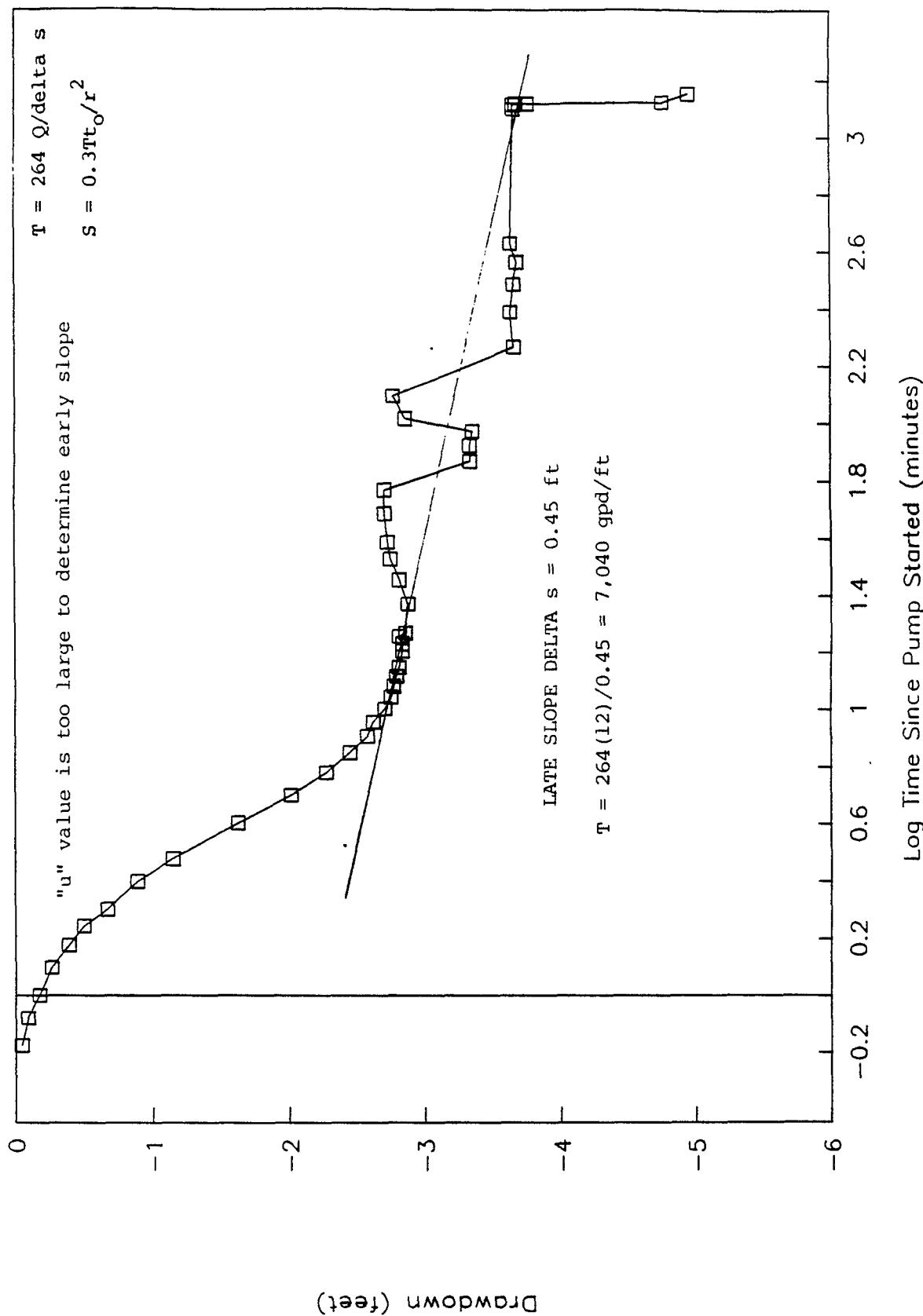
Radius of Pumping Well = 0.250 ft

Distance of Observation Well from Pumping Well = 185.000 ft

Entry No.	Time(t) (min)	Drawdown(s) (ft)	t / d^2 (min/sq ft)
1	11.000	0.040	3.214E-0004
2	53.000	0.090	1.549E-0003
3	79.000	0.066	2.308E-0003
4	111.000	0.085	3.243E-0003
5	142.000	0.100	4.149E-0003
6	164.000	0.100	4.792E-0003
7	232.000	0.100	6.779E-0003
8	441.000	0.155	1.289E-0002
9	503.000	0.170	1.470E-0002
10	601.000	0.155	1.756E-0002
11	693.000	0.174	2.025E-0002
12	785.000	0.170	2.294E-0002
13	871.000	0.198	2.545E-0002
14	966.000	0.166	2.822E-0002
15	1056.000	0.164	3.085E-0002
16	1146.000	0.174	3.348E-0002
17	1321.000	0.170	3.860E-0002
18	1329.000	0.140	3.883E-0002
19	1390.000	0.200	4.061E-0002
20	1463.000	0.200	4.275E-0002
21	1527.000	0.110	4.462E-0002
22	1625.000	0.100	4.748E-0002

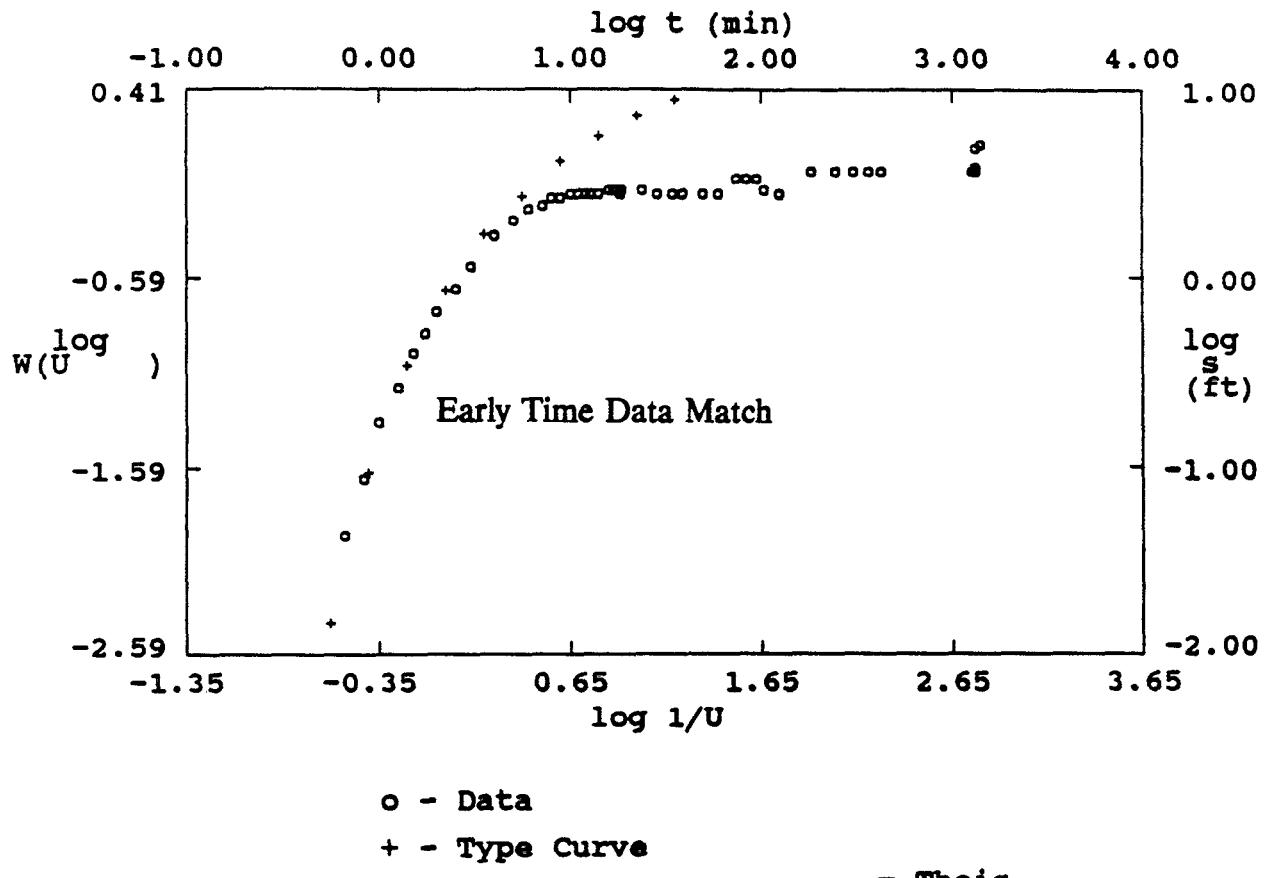
AR302799

Pump OW-2, Observe BR-5



AR302800

Pump OW-2, Obs BR-5

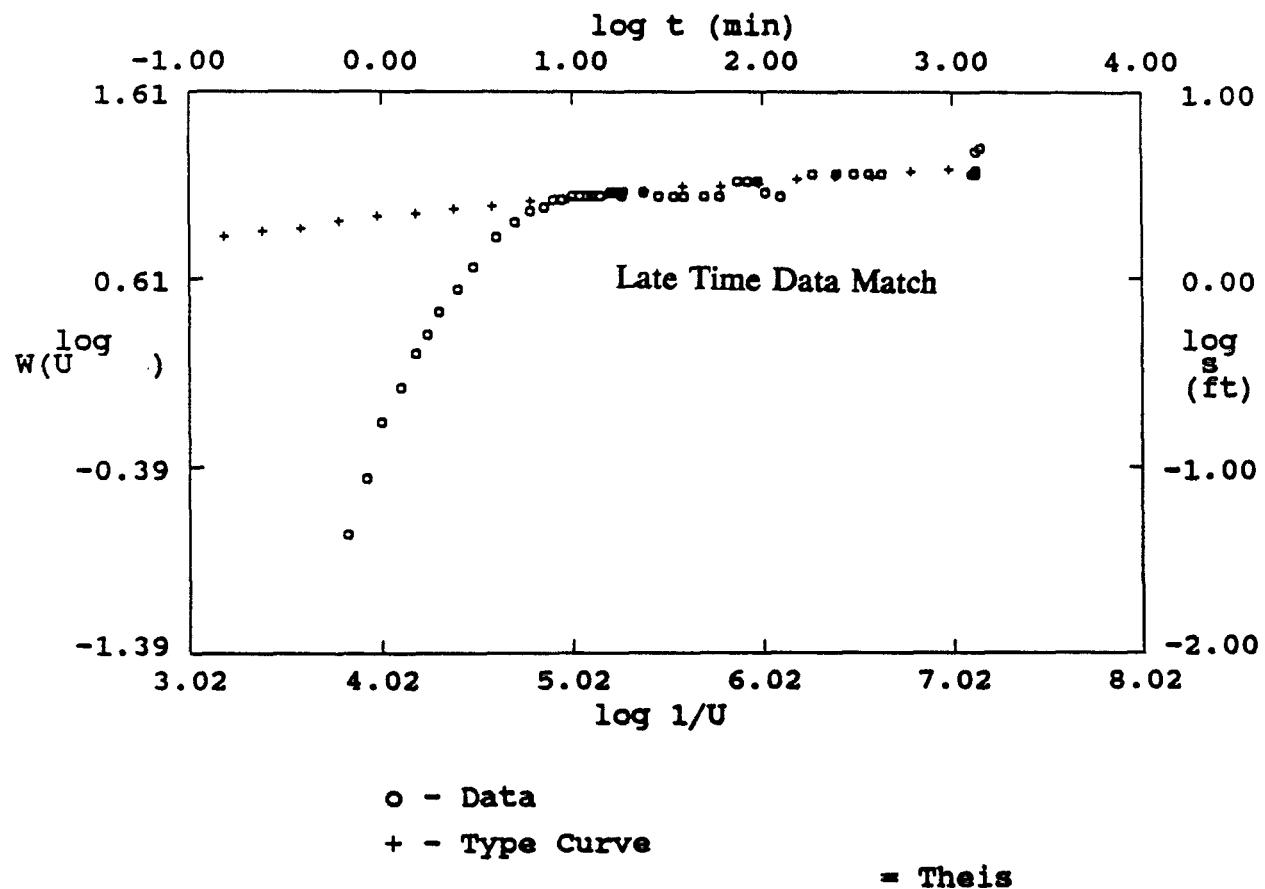


SOLUTION

Transmissivity = 3.534E+0002 gpd/ft
 Aquifer Thick. =
 Hydraulic Cond. =
 Storativity = 2.003E-0004

AR302801

Pump OW-2, Obs BR-5



SOLUTION

Transmissivity = 5.601E+0003 gpd/ft
 Aquifer Thick. =
 Hydraulic Cond. =
 Storativity = 1.354E-0007

AR302802

Data for Pump Test

Well Name: BR-5 Date of Test: 9-25-91
Aquifer Thickness (b):
Pumped Well Discharge(Q) = 12.000 gpm
Radius of Pumping Well = 0.250 ft
Distance of Observation Well from Pumping Well = 38.300 ft

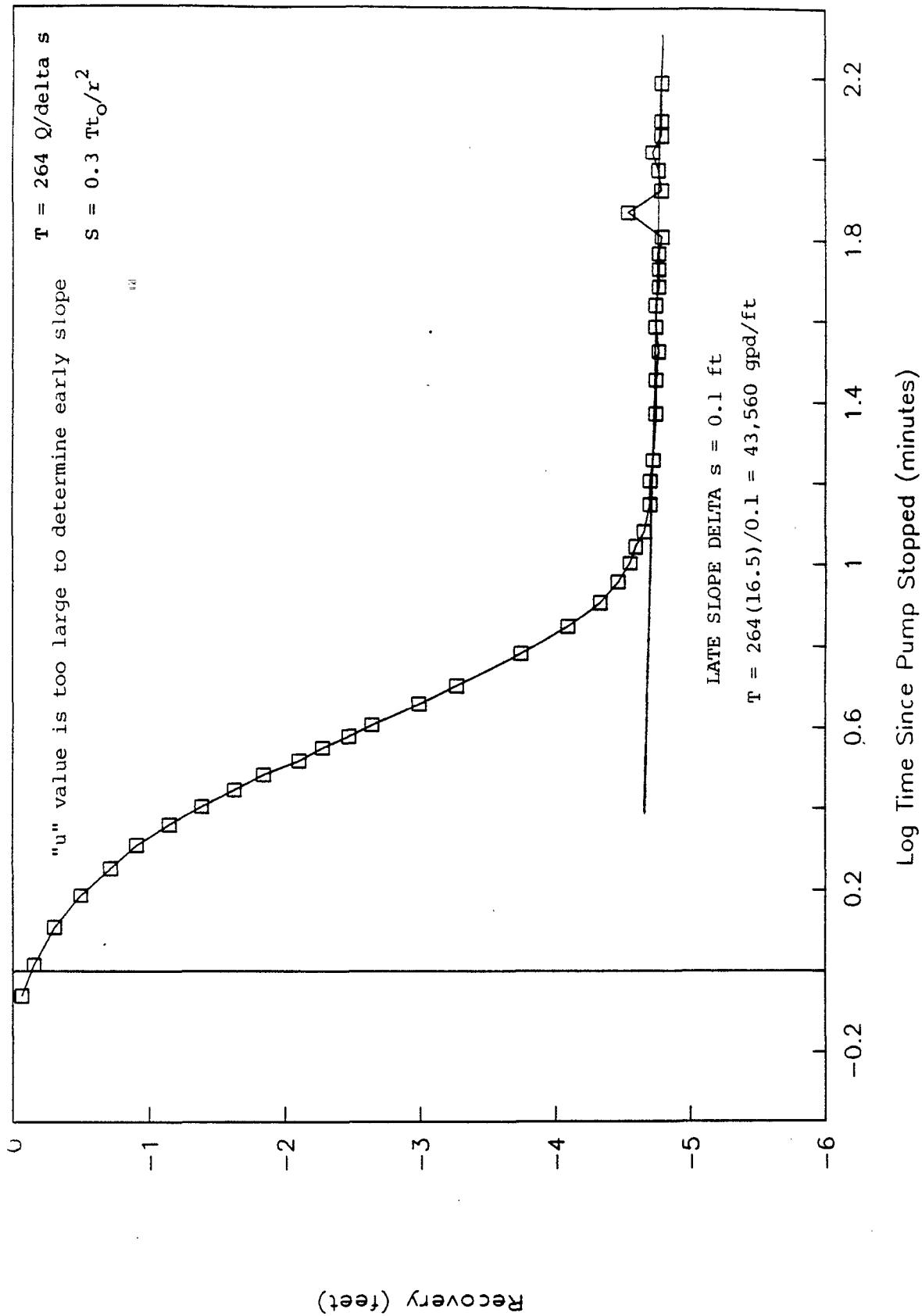
Entry No.	Time(t) (min)	Drawdown(s) (ft)	t / d (min/sq ft)
1	0.668	0.043	4.554E-0004
2	0.834	0.087	5.685E-0004
3	1.002	0.173	6.831E-0004
4	1.250	0.260	8.521E-0004
5	1.500	0.390	1.023E-0003
6	1.750	0.498	1.193E-0003
7	2.000	0.671	1.363E-0003
8	2.500	0.888	1.704E-0003
9	3.000	1.148	2.045E-0003
10	4.000	1.624	2.727E-0003
11	5.000	2.014	3.409E-0003
12	6.000	2.274	4.090E-0003
13	7.000	2.447	4.772E-0003
14	8.000	2.577	5.454E-0003
15	9.000	2.620	6.135E-0003
16	10.000	2.707	6.817E-0003
17	11.000	2.750	7.499E-0003
18	12.000	2.772	8.181E-0003
19	13.000	2.794	8.862E-0003
20	14.000	2.815	9.544E-0003
21	16.000	2.837	1.091E-0002
22	17.000	2.837	1.159E-0002
23	18.000	2.815	1.227E-0002
24	18.500	2.859	1.261E-0002
25	23.500	2.880	1.602E-0002
26	28.500	2.815	1.943E-0002
27	33.500	2.750	2.284E-0002
28	38.500	2.729	2.625E-0002
29	48.500	2.707	3.306E-0002
30	58.500	2.707	3.988E-0002
31	73.500	3.335	5.011E-0002
32	83.500	3.335	5.692E-0002
33	93.500	3.357	6.374E-0002
34	103.500	2.859	7.056E-0002
35	123.500	2.772	8.419E-0002
36	183.500	3.660	1.251E-0001
37	243.500	3.638	1.660E-0001
38	303.500	3.660	2.069E-0001
39	363.500	3.682	2.478E-0001
40	423.500	3.638	2.887E-0001
41	1247.500	3.660	8.504E-0001

AR302803

42	1300.000	3.660	8.862E-0001
43	1305.000	3.682	8.896E-0001
44	1307.168	3.682	8.911E-0001
45	1308.742	3.682	8.922E-0001
46	1310.000	3.768	8.930E-0001
47	1320.251	4.764	9.000E-0001
48	1422.252	4.959	9.696E-0001

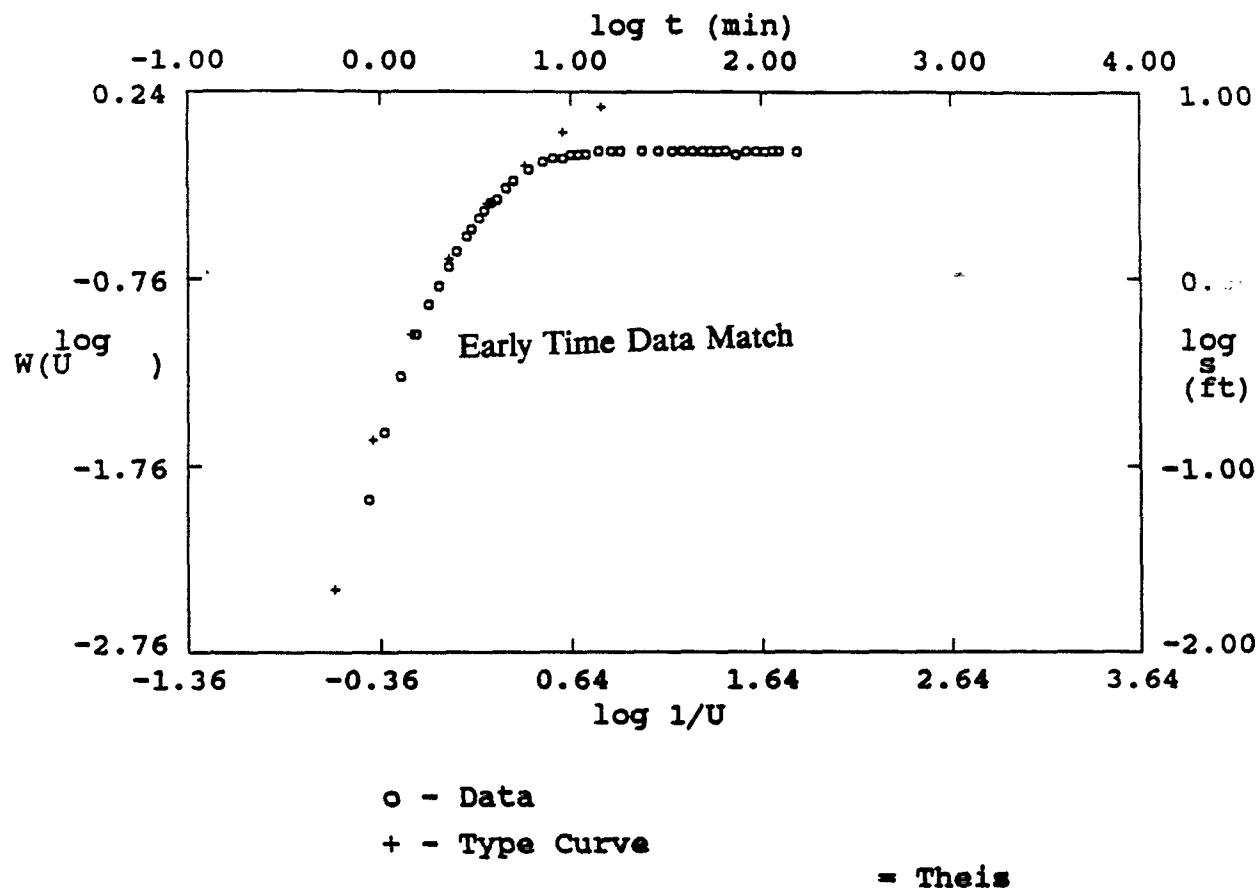
AR302804

Recover OW-2, Observe BR-5



AR302805

Recover OW-2, Obs BR-5(16.5gpm)



SOLUTION

Transmissivity = 3.285E+0002 gpd/ft
Aquifer Thick. =
Hydraulic Cond. =
Storativity = 1.905E-0004

AR302806

Data for Pump Test

Well Name: BR-5(r) Date of Test: 9-25-91
 Aquifer Thickness (b):
 Pumped Well Discharge(Q) = 16.500 gpm
 Radius of Pumping Well = 0.250 ft
 Distance of Observation Well from Pumping Well = 38.300 ft

Entry No.	Time(t) (min)	Drawdown(s) (ft)	t / d^2 (min/sq ft)
1	0.869	0.065	5.924E-0004
2	1.038	0.152	7.076E-0004
3	1.285	0.303	8.760E-0004
4	1.536	0.498	1.047E-0003
5	1.787	0.715	1.218E-0003
6	2.036	0.910	1.388E-0003
7	2.286	1.148	1.558E-0003
8	2.535	1.386	1.728E-0003
9	2.787	1.624	1.900E-0003
10	3.036	1.841	2.070E-0003
11	3.287	2.101	2.241E-0003
12	3.536	2.274	2.411E-0003
13	3.785	2.469	2.580E-0003
14	4.036	2.642	2.751E-0003
15	4.536	2.989	3.092E-0003
16	5.037	3.270	3.434E-0003
17	6.037	3.746	4.116E-0003
18	7.035	4.093	4.796E-0003
19	8.036	4.331	5.478E-0003
20	9.036	4.461	6.160E-0003
21	10.054	4.548	6.854E-0003
22	11.036	4.591	7.523E-0003
23	12.036	4.656	8.205E-0003
24	14.036	4.699	9.569E-0003
25	16.035	4.699	1.093E-0002
26	18.036	4.721	1.230E-0002
27	23.536	4.743	1.604E-0002
28	28.536	4.743	1.945E-0002
29	33.535	4.764	2.286E-0002
30	38.535	4.743	2.627E-0002
31	43.603	4.743	2.972E-0002
32	48.536	4.764	3.309E-0002
33	53.535	4.764	3.650E-0002
34	58.535	4.764	3.990E-0002
35	64.205	4.786	4.377E-0002
36	73.530	4.536	5.013E-0002
37	83.536	4.786	5.695E-0002
38	93.536	4.764	6.376E-0002
39	103.536	4.721	7.058E-0002
40	113.536	4.786	7.740E-0002
41	123.536	4.786	8.422E-0002

AR302807

42

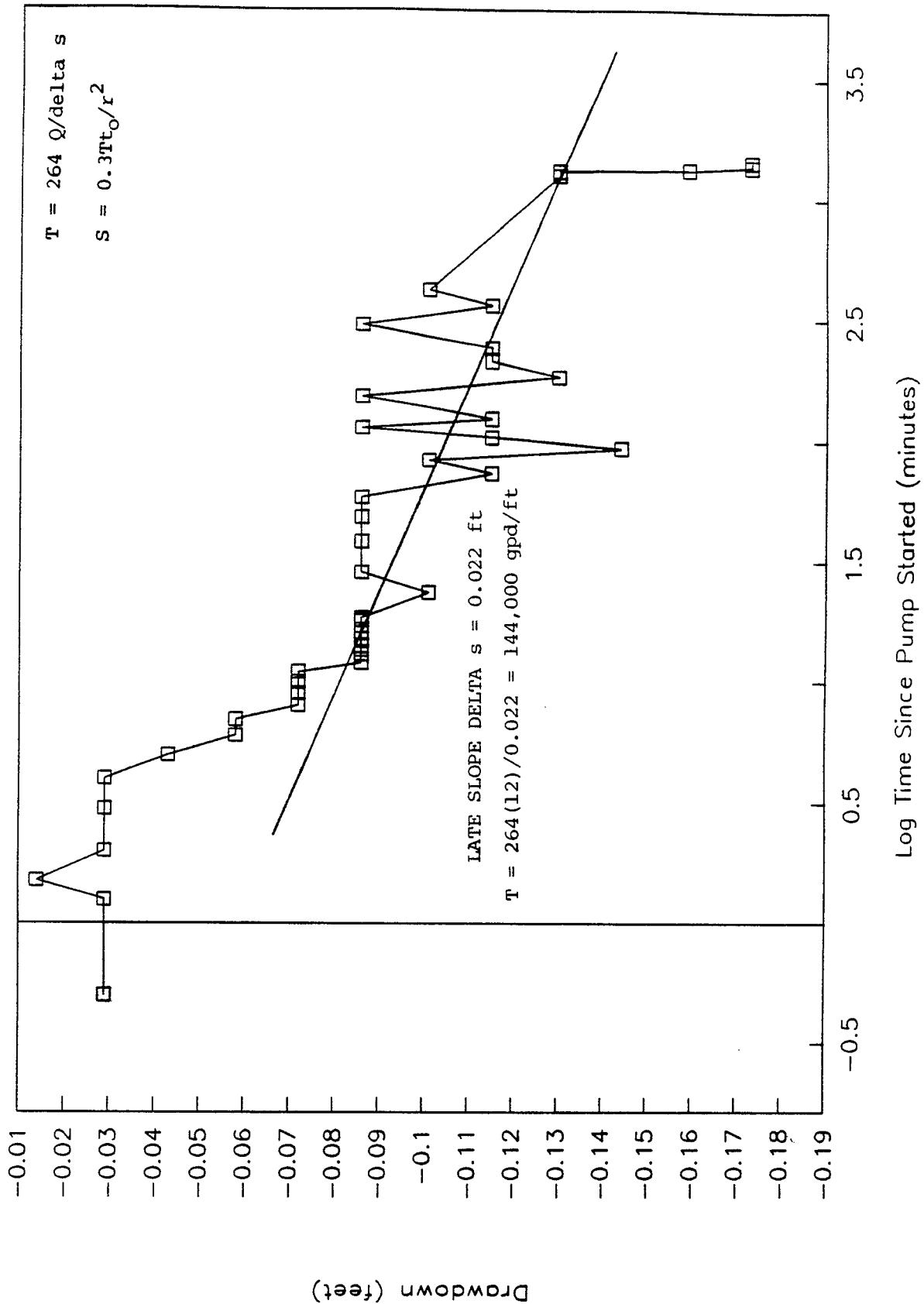
153.536

4.786

1.047E-0001

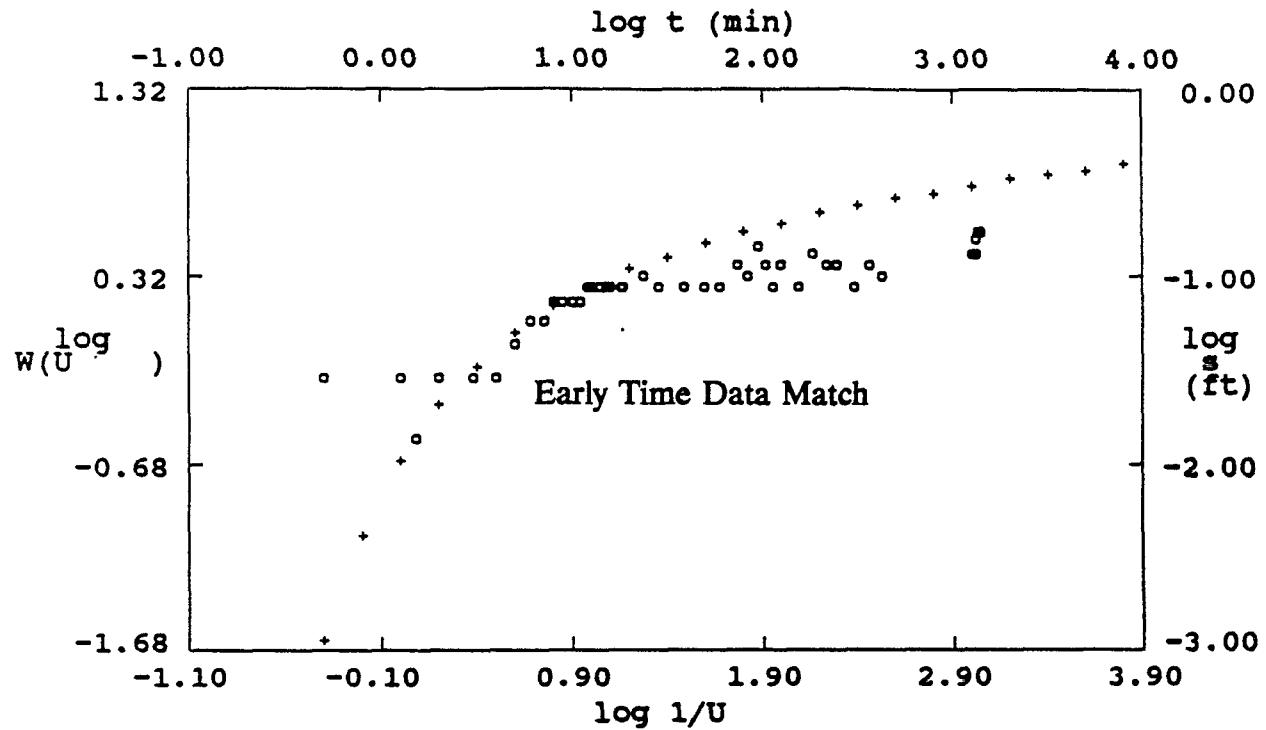
AR302808

Pump OW-2, Observe BR-8



AR302809

Pump OW-2, Obs BR-8



o - Data

+ - Type Curve

Confined Leaky: $r/B = \text{Theis}$

SOLUTION

Transmissivity = 2.872E+0004 gpd/ft

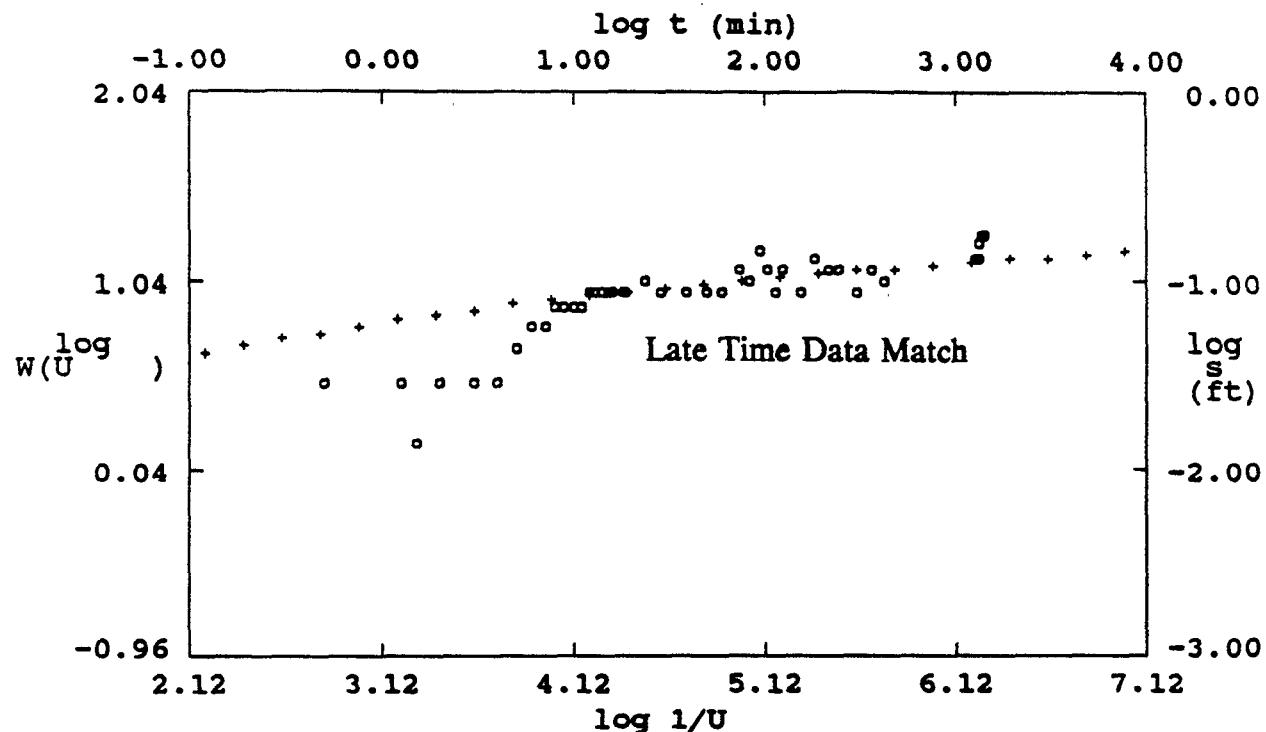
Aquifer Thick. =

Hydraulic Cond. =

Storativity = 1.997E-0003

AR302810

Pump OW-2, Obs BR-8



\circ - Data
 $+$ - Type Curve
 Confined Leaky: $r/B =$ Theis

SOLUTION

Transmissivity = 1.507E+0005 gpd/ft
 Aquifer Thick. =
 Hydraulic Cond. =
 Storativity = 6.316E-0006

AR302811

Data for Pump Test

Well Name: BR-8 Date of Test: 9-25-91
Aquifer Thickness (b):
Pumped Well Discharge(Q) = 12.000 gpm
Radius of Pumping Well = 0.250 ft
Distance of Observation Well from Pumping Well = 82.000 ft

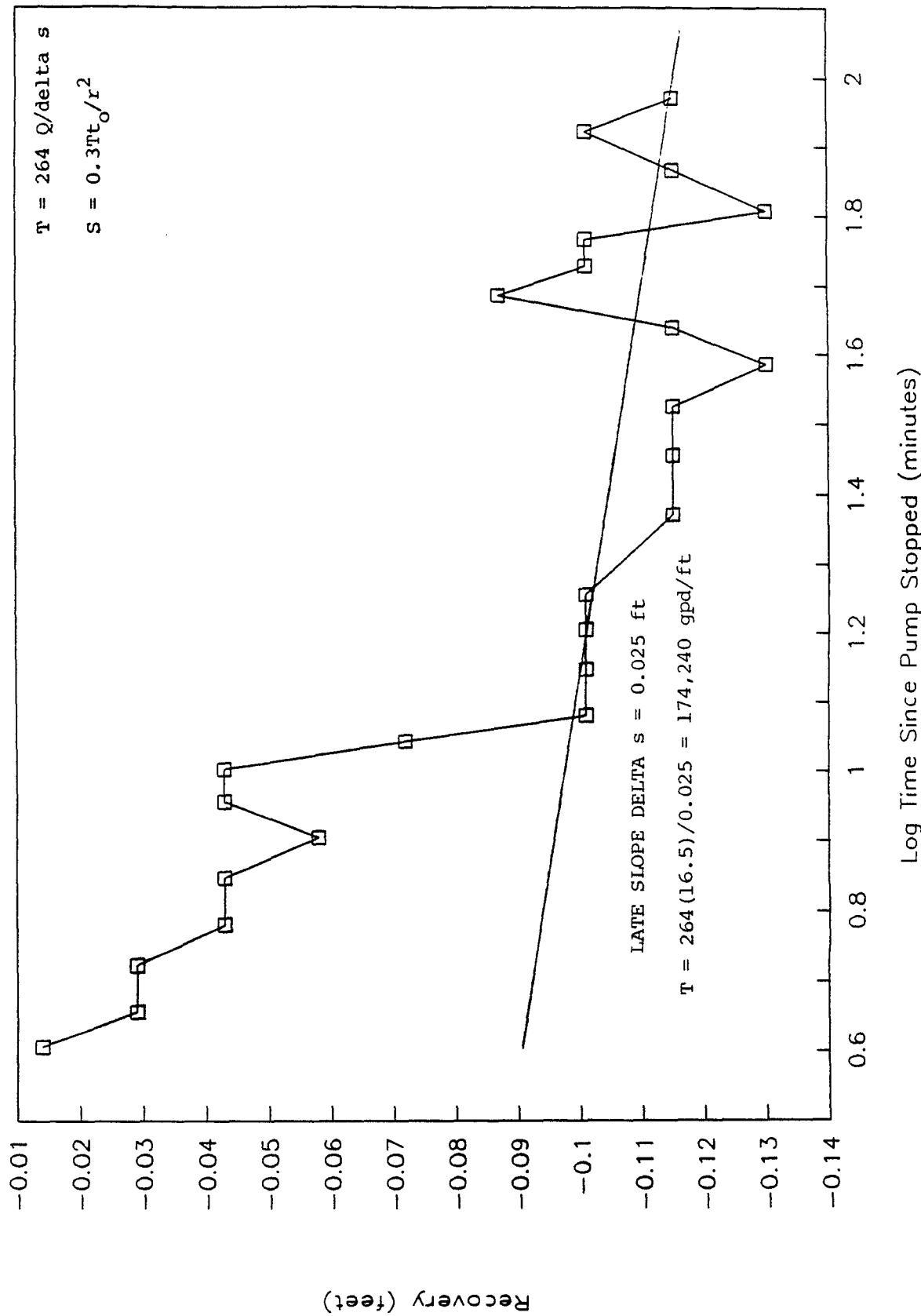
Entry No.	Time(t) (min)	Drawdown(s) (ft)	t / d (min/sq ft)
1	0.500	0.029	7.436E-0005
2	1.250	0.029	1.859E-0004
3	1.500	0.014	2.231E-0004
4	2.000	0.029	2.974E-0004
5	3.000	0.029	4.462E-0004
6	4.000	0.029	5.949E-0004
7	5.000	0.043	7.436E-0004
8	6.000	0.058	8.923E-0004
9	7.000	0.058	1.041E-0003
10	8.000	0.072	1.190E-0003
11	9.000	0.072	1.338E-0003
12	10.000	0.072	1.487E-0003
13	11.000	0.072	1.636E-0003
14	12.000	0.086	1.785E-0003
15	13.000	0.086	1.933E-0003
16	14.000	0.086	2.082E-0003
17	15.000	0.086	2.231E-0003
18	16.000	0.086	2.380E-0003
19	18.000	0.086	2.677E-0003
20	18.500	0.086	2.751E-0003
21	23.500	0.101	3.495E-0003
22	28.500	0.086	4.239E-0003
23	38.500	0.086	5.726E-0003
24	48.500	0.086	7.213E-0003
25	58.500	0.086	8.700E-0003
26	73.500	0.115	1.093E-0002
27	83.500	0.101	1.242E-0002
28	93.500	0.144	1.391E-0002
29	103.500	0.115	1.539E-0002
30	113.500	0.086	1.688E-0002
31	123.500	0.115	1.837E-0002
32	153.500	0.086	2.283E-0002
33	183.500	0.130	2.729E-0002
34	213.500	0.115	3.175E-0002
35	243.500	0.115	3.621E-0002
36	303.500	0.086	4.514E-0002
37	363.500	0.115	5.406E-0002
38	423.500	0.101	6.298E-0002
39	1247.500	0.130	1.855E-0001
40	1300.674	0.130	1.934E-0001
41	1307.167	0.130	1.944E-0001

AR302812

42	1323.750	0.159	1.969E-0001
43	1362.251	0.173	2.026E-0001
44	1422.252	0.173	2.115E-0001

AR302813

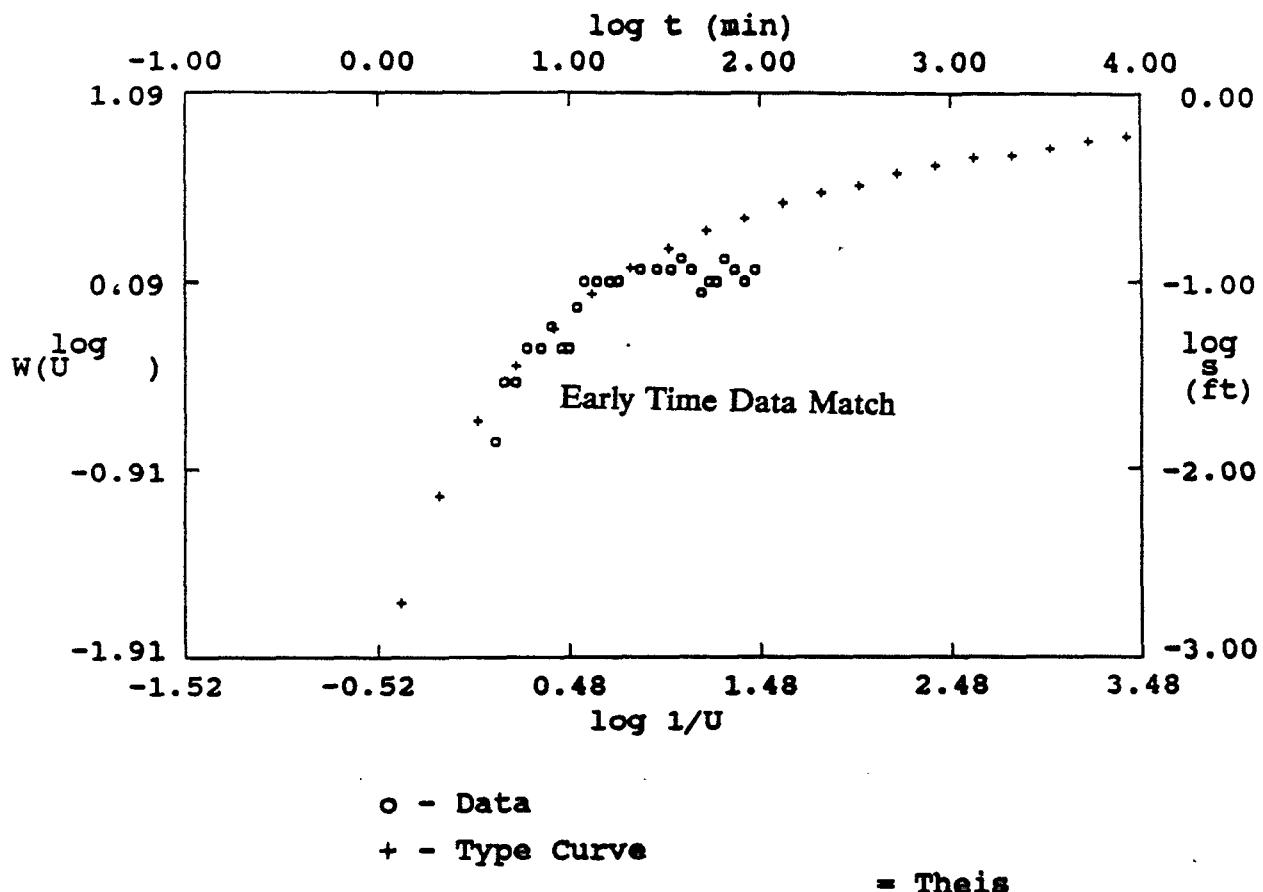
Recover OW-2, Observe BR-8



Recovery (feet)

AR302814

Recover OW-2, Obs BR-8(16.5gpm)

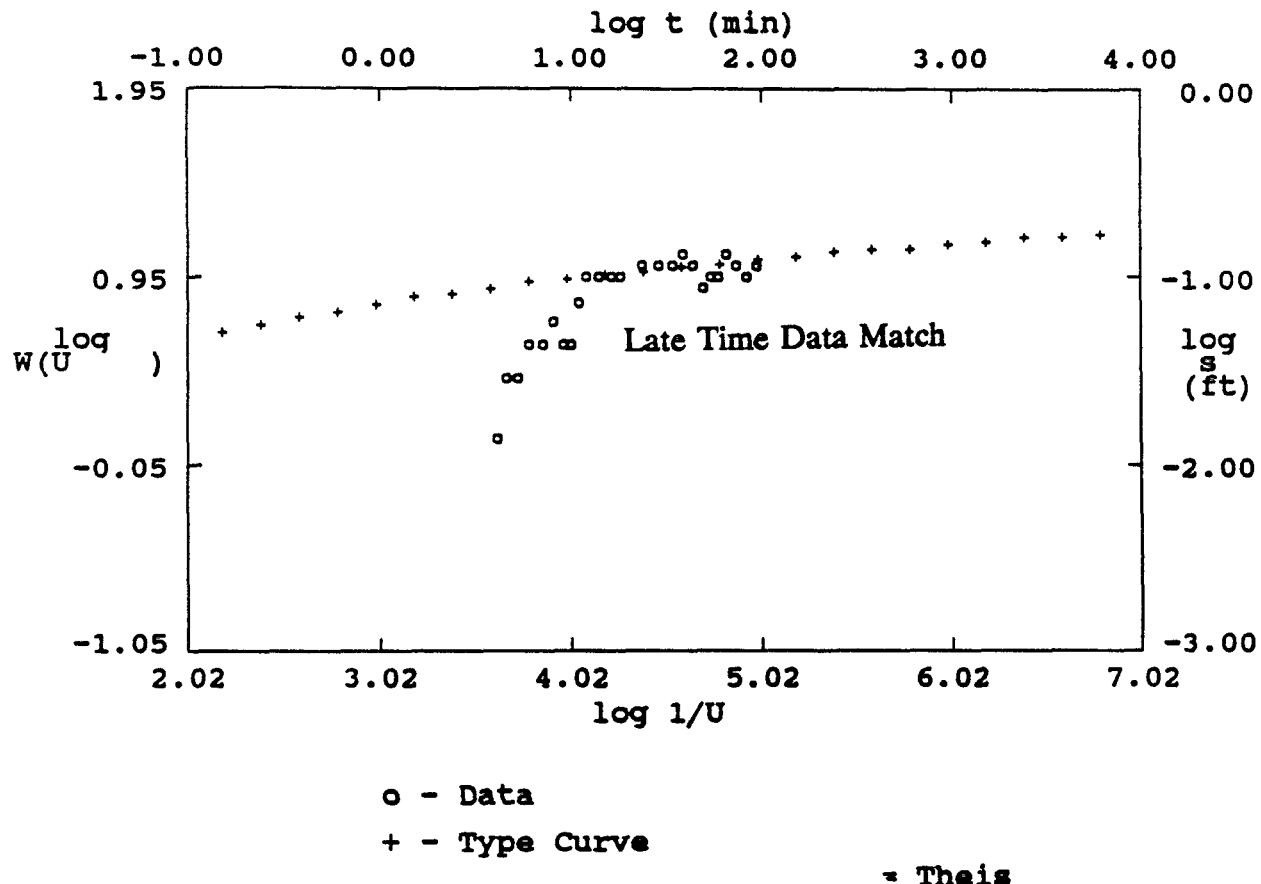


SOLUTION

Transmissivity = 2.326E+0004 gpd/ft
 Aquifer Thick. =
 Hydraulic Cond. =
 Storativity = 1.869E-0003

AR302815

Recover OW-2, Obs BR-8(16.5gpm)



SOLUTION

Transmissivity = 1.685E+0005 gpd/ft
 Aquifer Thick. =
 Hydraulic Cond. =
 Storativity = 3.905E-0006

AR302816

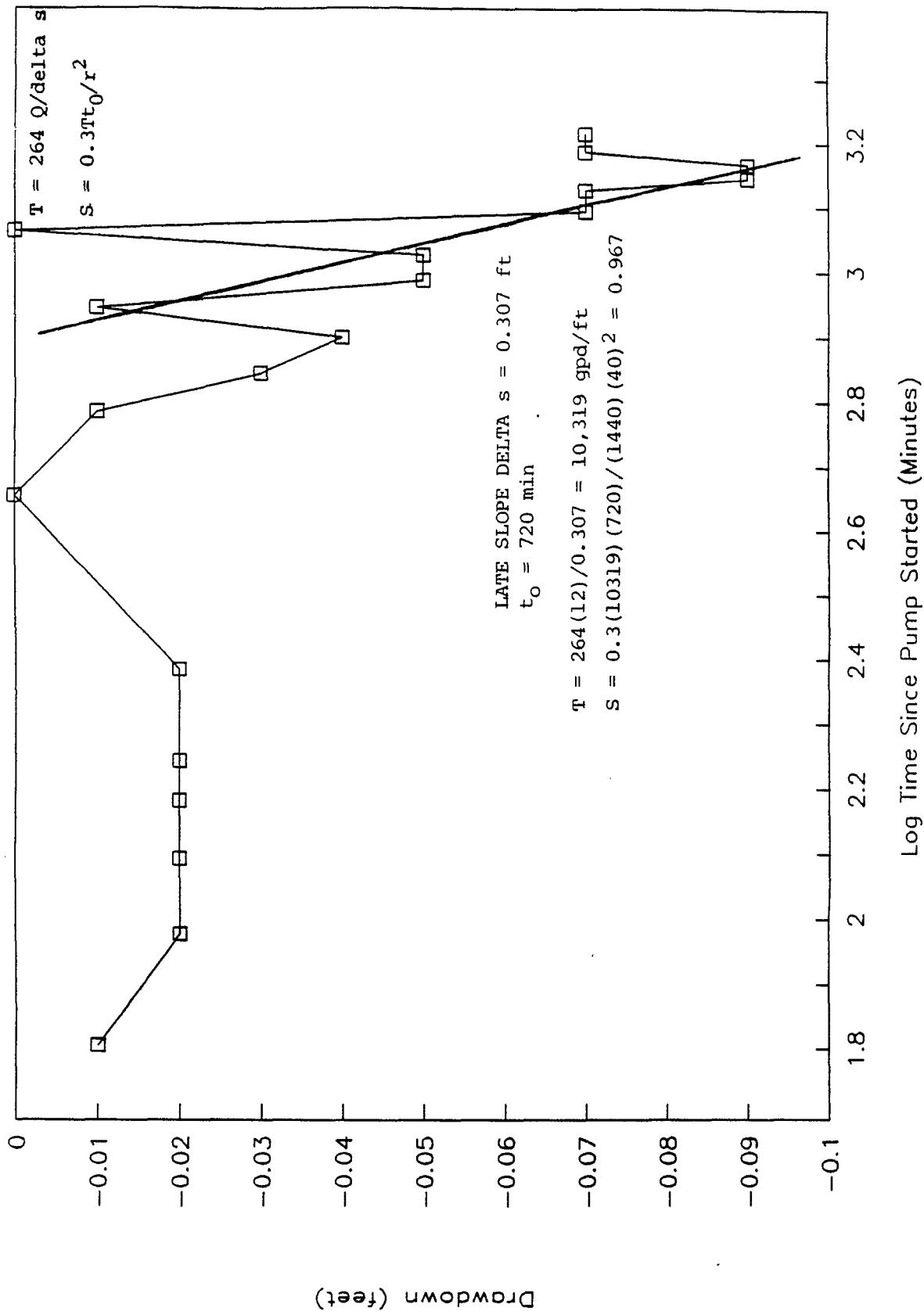
Data for Pump Test

Well Name: BR-8(r) Date of Test: 9-26-91
 Aquifer Thickness (b):
 Pumped Well Discharge(Q) = 16.500 gpm
 Radius of Pumping Well = 0.250 ft
 Distance of Observation Well from Pumping Well = 123.700 ft

Entry No.	Time(t) (min)	Drawdown(s) (ft)	t / d^2 (min/sq ft)
1	4.036	0.014	2.638E-0004
2	4.536	0.029	2.964E-0004
3	5.286	0.029	3.455E-0004
4	6.037	0.043	3.945E-0004
5	7.035	0.043	4.598E-0004
6	8.036	0.058	5.252E-0004
7	9.036	0.043	5.905E-0004
8	10.054	0.043	6.571E-0004
9	11.036	0.072	7.212E-0004
10	12.036	0.101	7.866E-0004
11	14.036	0.101	9.173E-0004
12	16.035	0.101	1.048E-0003
13	18.036	0.101	1.179E-0003
14	23.536	0.115	1.538E-0003
15	28.536	0.115	1.865E-0003
16	33.535	0.115	2.192E-0003
17	38.535	0.130	2.518E-0003
18	43.605	0.115	2.850E-0003
19	48.534	0.087	3.172E-0003
20	53.535	0.101	3.499E-0003
21	58.535	0.101	3.825E-0003
22	64.205	0.130	4.196E-0003
23	73.535	0.115	4.806E-0003
24	83.535	0.101	5.459E-0003
25	93.536	0.115	6.113E-0003

AR302817

Pump OW-2, Observe OB-5



AR302818

Data for Pump Test

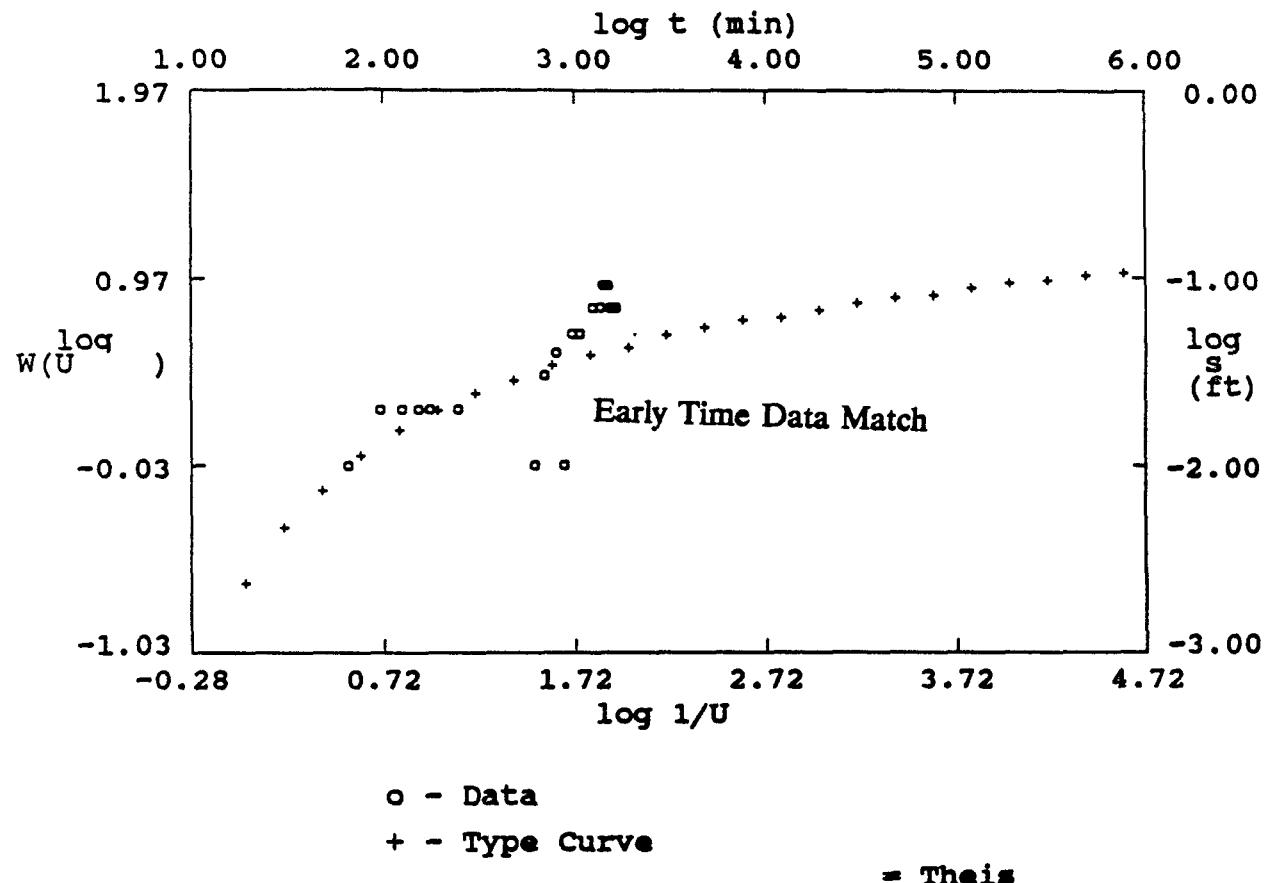
Well Name: OB-5 Date of Test: 9-25-91
Aquifer Thickness (b):
Pumped Well Discharge(Q) = 12.000 gpm
Radius of Pumping Well = 0.250 ft
Distance of Observation Well from Pumping Well = 40.000 ft

2

Entry No.	Time(t) (min)	Drawdown(s) (ft)	t / d (min/sq ft)
1	64.000	0.010	4.000E-0002
2	95.000	0.020	5.937E-0002
3	124.000	0.020	7.750E-0002
4	152.000	0.020	9.500E-0002
5	175.000	0.020	1.094E-0001
6	243.000	0.020	1.519E-0001
7	451.000	0.000	2.819E-0001
8	611.000	0.010	3.819E-0001
9	699.000	0.030	4.369E-0001
10	793.000	0.040	4.956E-0001
11	881.000	0.010	5.506E-0001
12	973.000	0.050	6.081E-0001
13	1064.000	0.050	6.650E-0001
14	1154.000	0.000	7.212E-0001
15	1238.000	0.070	7.738E-0001
16	1337.000	0.070	8.356E-0001
17	1398.000	0.090	8.737E-0001
18	1469.000	0.090	9.181E-0001
19	1533.000	0.070	9.581E-0001
20	1638.000	0.070	1.024E+0000

AR302819

Pump OW-2, Obs OB-5

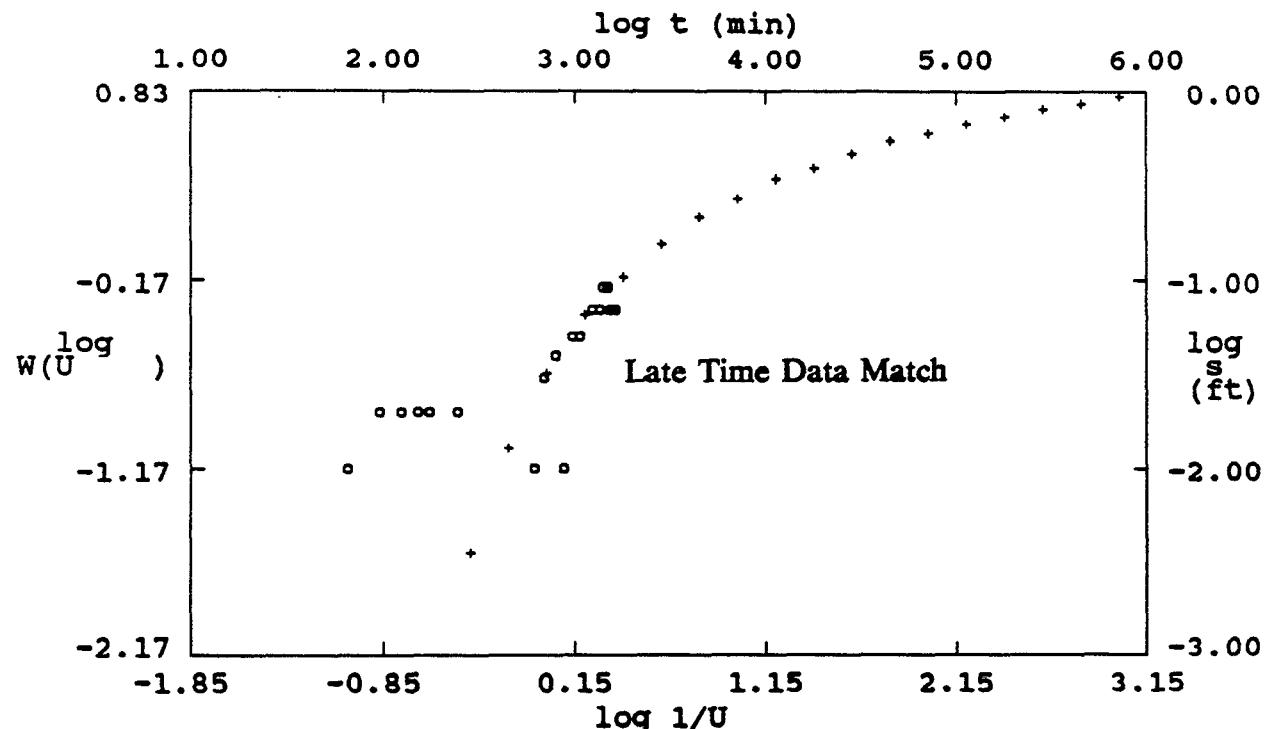


SOLUTION

Transmissivity = 1.283E+0005 gpd/ft
 Aquifer Thick. =
 Hydraulic Cond. =
 Storativity = 5.675E-0001

AR302820

Pump OW-2, Obs OB-5



○ - Data

+ - Type Curve

= Theis

SOLUTION

Transmissivity = 9.295E+0003 gpd/ft

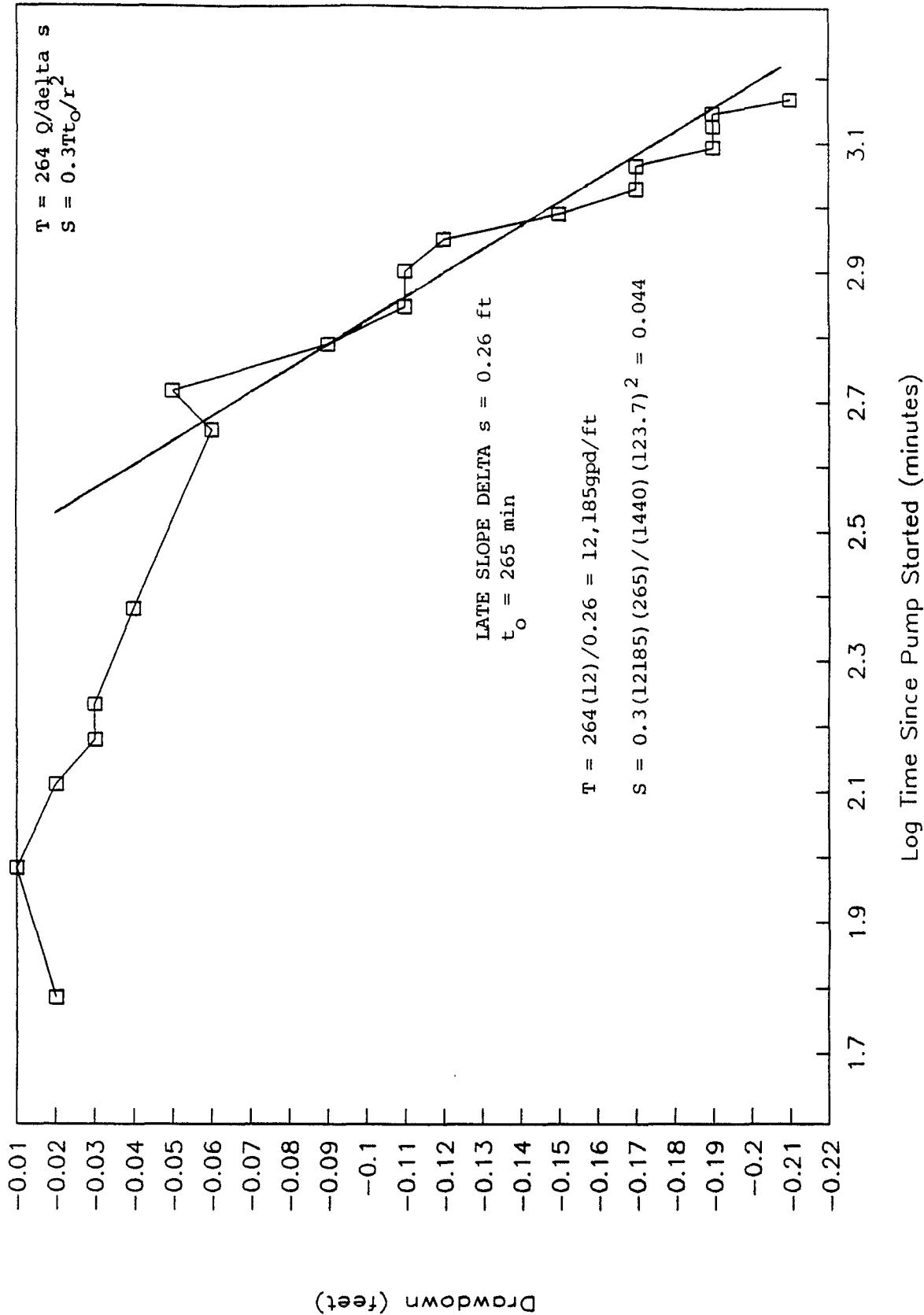
Aquifer Thick. =

Hydraulic Cond. =

Storativity = 1.527E+0000

AR302821

Pump OW-2, Observe OB-8



AR302822

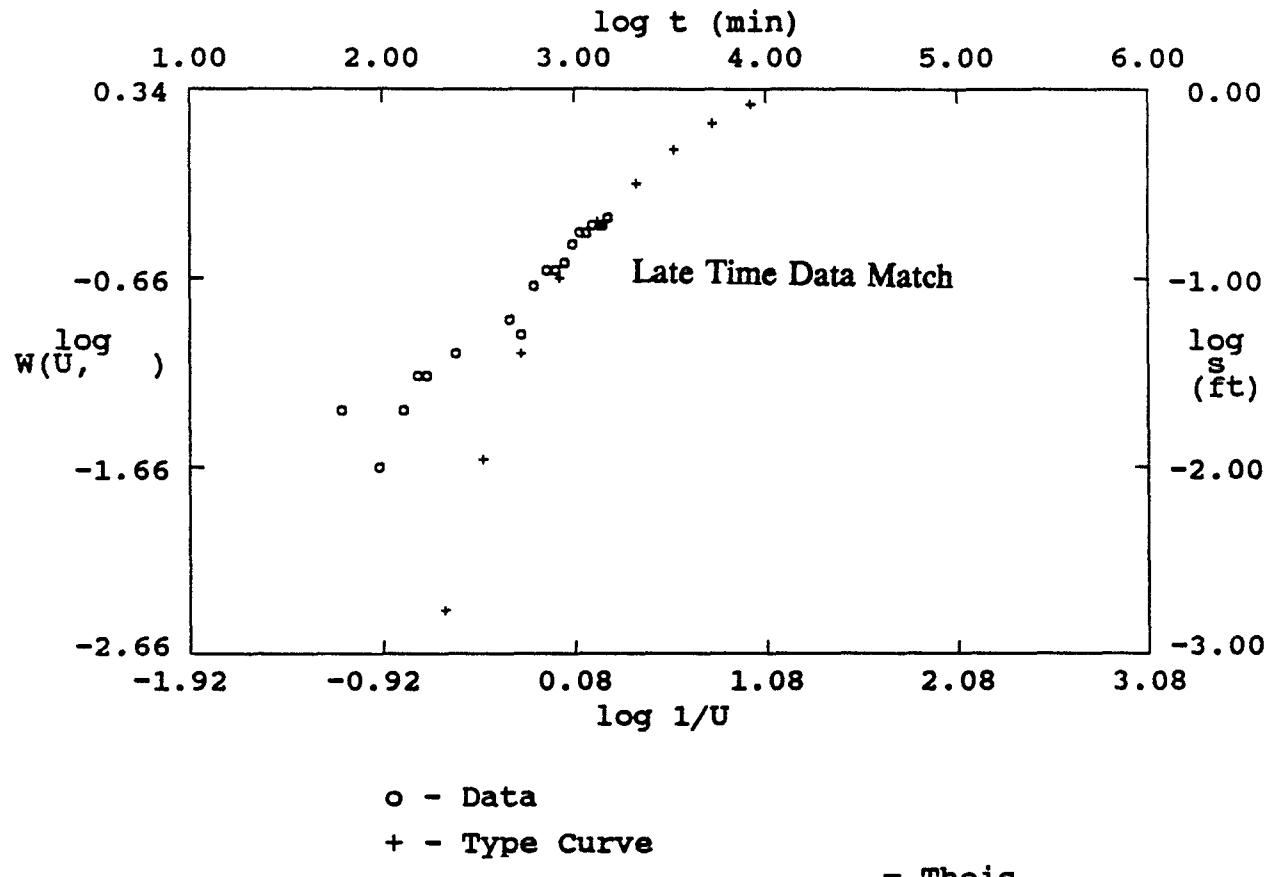
Data for Pump Test

Well Name: OB-8 Date of Test: 9-25-91
Aquifer Thickness (b):
Pumped Well Discharge(Q) = 12.000 gpm
Radius of Pumping Well = 0.250 ft
Distance of Observation Well from Pumping Well = 123.700 ft

Entry No.	Time(t) (min)	Drawdown(s) (ft)	t / d (min/sq ft)
1	61.000	0.020	3.986E-0003
2	96.000	0.010	6.274E-0003
3	129.000	0.020	8.430E-0003
4	151.000	0.030	9.868E-0003
5	171.000	0.030	1.118E-0002
6	240.000	0.040	1.568E-0002
7	453.000	0.060	2.960E-0002
8	521.000	0.050	3.405E-0002
9	613.000	0.090	4.006E-0002
10	700.000	0.110	4.575E-0002
11	794.000	0.110	5.189E-0002
12	887.000	0.120	5.797E-0002
13	974.000	0.150	6.365E-0002
14	1065.000	0.170	6.960E-0002
15	1156.000	0.170	7.555E-0002
16	1239.000	0.190	8.097E-0002
17	1338.000	0.190	8.744E-0002
18	1399.000	0.190	9.143E-0002
19	1470.000	0.210	9.607E-0002

AR302823

Pump OW-2, Obs OB-8

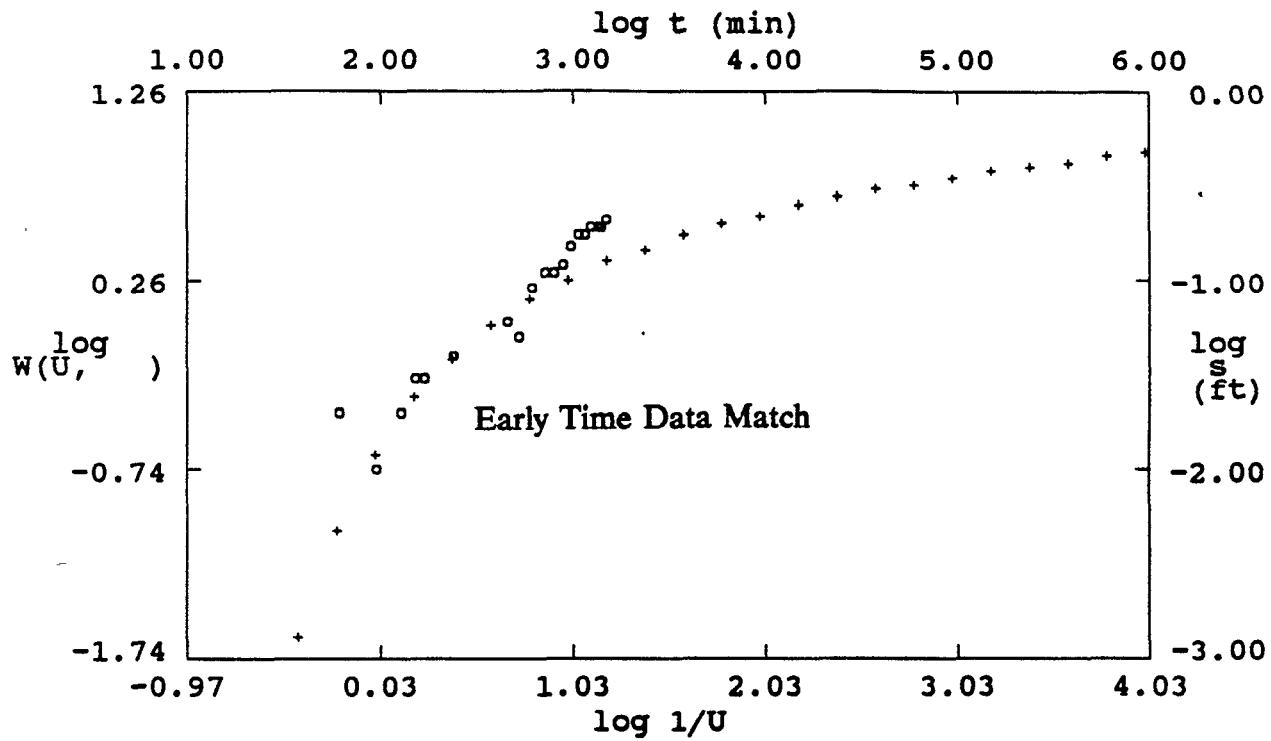


SOLUTION

Transmissivity = 3.008E+0003 gpd/ft
Aquifer Thick. =
Hydraulic Cond. =
Storativity = 6.072E-0002

AR302824

Pump OW-2, Obs OB-8



o - Data

+ - Type Curve

= Theis

SOLUTION

Transmissivity = 2.502E+0004 gpd/ft

Aquifer Thick. =

Hydraulic Cond.=

Storativity = 5.667E-0002

AR302825

APPENDIX J

LABORATORY SUMMARY SHEETS AND DAMES & MOORE DATA VALIDATION
REPORT FOR APRIL 1991 GROUND WATER SAMPLES

AR302826

QUALITY ASSURANCE REVIEW

Recticon - Overburden and Bedrock Well Water Samples
Dames & Moore Job No. 10839-047

DATES COLLECTED: 4/1-5/91
DATES OF REVIEW: 5/28-30/91

SDGS #: 13072

INTRODUCTION

This quality assurance review (QAR) is based upon a rigorous review of all data generated from the analysis of aqueous samples which were collected during April of 1991 from the referenced site. The samples which were reviewed are listed in Table 1.

This review has been performed in accordance with the "Functional Guidelines for Evaluating Organics Analyses" (USEPA, March 1990), "Functional Guidelines of Inorganic Analyses" (USEPA, March 1990), "Region III Modifications to the Organic Functional Guidelines" (June 1988) and "Region III Modifications to the Inorganic Functional Guidelines" (June 1988).

The data was examined to determine usability as well as to determine contractual compliance relative to the requirements and deliverables specified in the approved workplan. Qualifier codes have been assigned to each analytical result, as appropriate, to facilitate data interpretation. The detailed findings of the QAR are provided in the narrative section of this report. The analytical results are presented in the attached sample data summary sheets.

This report provides a critical review of the laboratory performance and reported analytical results. Quality assurance reviews of laboratory generated data routinely identify problems associated with analytical measurements, even from the most experienced and capable laboratories. The nature and extent of discrepancies identified in this critical review should not be interpreted to mean that those results which are qualified are less than valid.

AR302827

TABLE 1
SAMPLES INCLUDED IN THIS QAR

ENSECO LABORATORY NUMBER	DAMES & MOORE SAMPLE IDENTIFICATION	ROCKY MT. LABORATORY NUMBER (Inorganics)	ANALYTICAL PARAMETERS
13072-001	TB	-	V
13072-002	FB	1445201/1444501	V, S, M ^(T,D) , CN
13072-003	OB-2	1445202/1444502	V, S, M ^(T,D) , CN
13072-004	OB-1	1445203/-	V, M ^(D)
13072-005	OB-7	1445204/1444503	V, S, M ^(T,D) , CN
13072-006	OB-3	1445205/1444504	V, S, M ^(T,D) , CN
13072-007	OB-4	1445206/1444505	V, S, M ^(T,D) , CN
13072-008	OB-5	1445207/1444506	V, S, M ^(T,D) , CN
13072-009	OB-7	1445204/1444503	V, S, M ^(T,D) , CN
13072-005	OB-7	1445204/1444503	V, S, M ^(T,D) , CN
13072-005	OB-7	1445204/1444503	V, S, M ^(T,D) , CN
13072-005	OB-7	1445204/1444503	V, S, M ^(T,D) , CN
13072-009	OB-8	1445208/1444507	V, S, M ^(T,D) , CN
13072-010	OB-6	1445209/1444508	V, S, M ^(T,D) , CN
13072-011	OB-1	-/1444509	M ^(T) , CN
13072-012	BR-1	1445210/1444510	V, S, M ^(T,D) , CN
13072-013	BR-2	1445211/1444511	V, S, M ^(T,D) , CN
13072-014	BR-3	1445212/1444512	V, S, M ^(T,D) , CN
13072-015	BR-4	1445213/1444513	V, S, M ^(T,D) , CN
13072-016	BR-7	1445214/1444514	V, S, M ^(T,D) , CN
13072-017	BR-6	1445215/1444515	V, S, M ^(T,D) , CN
13072-018	BR-5	1445216/1444516	V, S, M ^(T,D) , CN
13072-019	BR-8	1445217/1444517	V, S, M ^(T,D) , CN
13072-020	OB-1	-/1444518	S, M ^(T) , CN

V - Volatile

S - Semi-volatile

M - Metals - (T) Total, (D) Dissolved

CN - Cyanide

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SECTION 1 QUALITY ASSURANCE REVIEW

A. Organic Data

Sixteen (16) aqueous samples and two (2) quality control samples (field and trip blanks) were collected and analyzed by Enseco, Inc., in Somerset, New Jersey. These samples were collectively analyzed for the volatile organic compounds by EPA Method 524.2 and TCL base/neutral/acid semivolatile organic compounds.

The findings offered in this report are based upon a rigorous review of holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS tuning, and calibrations. The organic analytical results with appropriate qualifiers are attached in the data summary sheets.

Overall, the data quality for this data package was acceptable. With regard to the requirements as specified in the workplan, all deliverables and reporting requirements were met for this data package with the exception of the following.

Correctable Deficiencies

- The case narrative provided in this SDG# 13072 on Page 1 was labeled as SDG# 13608 and does not pertain to this package. The correct case narrative should be provided.
- For sample BR-5 (13072-018) methylene chloride was incorrectly flagged as "D" on the summary sheet instead of "JB". Corrected page data sheets should be provided for page 34 of summary package and page 432 of the report.
- For sample OB-3 (13072-006) methylene chloride was not detected nor was a mass spectrum provided. The reviewer assumes that this result was not intended to be reported, and has listed the results as 0.5 U on the data summary sheets. Corrected data sheets should be provided for page 12 of the summary package and page 142 of the report.
- For sample BR-1 (13072-012) chloroform is reported as 0.55 ug/l. The quantitation report indicates 0.54 ug/l. The data summary sheets reflect the quantitation report value. This value should be correct on page 22 of the summary package and page 246 of the report.
- For sample BR-6 (13072-017) xylene was not detected nor was a mass spectrum provided. The reviewer assumes that this result was not intended to be reported and has listed the value as 0.5 U on the data summary sheets. Corrected data sheets should be provided for page 33 of the summary package and page 406 of the report.

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- For sample BR-5 (13072-018) 0.36 J of chloromethane was reported. The quantitation report and mass spectrum identify 0.36 J of chloroethane. The reviewer assumes that this value was transcribed incorrectly, and has reported chloroethane as 0.36 J and chloromethane as 0.5 U on the data summary sheet. Corrected data sheets should be provided for page 34 of the summary package and page 432 of the report.

Non-Correctable Deficiencies

- Samples OB-3, OB-6, and BR-4 (13072-006, 13072-101, and 13072-015, respectively) had low surrogate recoveries for acid extractables and were re-extracted 20 days out of hold. Technically, these samples are non-compliant. The re-extracted samples also had low surrogate recoveries for acid extractables. The initial analyses and re-extracted analyses reported consistent findings of non-detects for all compounds. However, BR-4MS and BR-4MSD, which were analyzed within hold and had surrogate recoveries within the control limits, detected 2-nitrophenol at 69 ug/l and 68 ug/l, respectively. The data for these samples is therefore, determined to be unacceptable for the acid extractable compounds. The acid extractable compounds for these samples are flagged "R" on the data summary sheets.

Organic Data Qualifiers

- Methylene chloride, 1,2-dichlorobenzene, 1,4-dichlorobenzene, naphthalene, 1,2,4-trichlorobenzene, ethylbenzene, tetrachloroethane, toluene, trichloroethane, and trichlorofluoromethane, are present in field blanks, trip blanks, and/or laboratory method blanks. The reported presence of these constituents in volatile samples above the instrument detection and less than 5 times the blank value (10 x for methylene chloride and toluene) are flagged "B" as questionable on the data summary sheets.
- Surrogate recoveries of acid extractable were less than 10 percent in samples OB-3, OB-6, and BR-4 and their re-extractions. All acid extractable compounds in these samples are flagged "R" as unreliable.
- The calibration criteria were met, however, the following semivolatile organic compounds have a percent difference between the initial and continuing calibration of greater than 25 percent criteria. All positive results for these compounds have been flagged "J" and non-detects "UJ" as estimated.

AR302830

<u>Compound</u>	<u>Applicable Samples</u>
Hexachloropentadiene	OB-4, OB-5, OB-8, OB-6, BR-1, BR-2, BR-3
	<ul style="list-style-type: none"> • Per CLP protocol, all sample results detected at levels less than the quantitation limit should be considered estimated and have been flagged "J" on the sample data summary. • As per CLP requirements all results obtained from diluted samples are flagged "D" on the data summary sheets. • Although there is no qualitative reason to question the validity of the positive results of dimethyl phthalate (BR-2) or bis (2-ethylhexyl) phthalate (OB-2, OB-7, OB-4, OB-8, and OB-1), it should be noted that phthalate esters are common laboratory and/or field contaminants since they are found in percent concentrations in numerous types of plastics.

B. Inorganic Data

Nineteen (19) aqueous samples and one (1) quality control samples (field blank) were collected and analyzed by Enseco Corporation of Somerset, New Jersey. These samples were analyzed for metals (total and dissolved) and cyanide.

The findings offered in this report are based upon a rigorous review of holding times, blank analysis results, pre- and post-digestion spike recoveries, laboratory duplicate analysis, quantitation of positive results, instrument sensitivity, calibration, ICP interference checks, ICP serial dilutions, laboratory control standard recoveries, graphite furnace QC, and adherence to the protocol and requirements specified in EPA CLP SOW3/90. The inorganic analytical results with appropriate qualifiers are attached in the data summary sheets.

Overall, the inorganic quality for this data package appears to be acceptable. With regard to the requirements as specified in the workplan, all deliverables and reporting requirements were met for this data package with the exception of the following.

Correctable Deficiencies

- BR-5, OB-5, and OB-1 were analyzed for selenium straight and diluted. Selenium was not detected at the straight value or in the diluted. The lab should explain why these samples were diluted and the values reported at the higher detection limit.
- On page 1254, the cyanide result is reported on the wrong line (its reported as a zinc value). A corrected data sheet should be provided.

Inorganic Data Qualifiers

- Due to low spike recoveries of selenium and thallium for total metals, all associated samples are qualified as biased low. Positive results are flagged "L" and non-detects are flagged "UL".
- Due to low spike recovery of selenium in the dissolved metals, associated positive results are flagged "L" and non-detects "UL" as biased low.
- Due to high recovery of manganese in the dissolved metals, associated positive results are flagged "K" as biased high.
- The percent difference in the dissolved metal duplicate was out of the control limits for sodium. All positive results are flagged "J" as estimated.
- The post digestion dissolved metal spikes were below the control limits for the furnace metals. All positive results are flagged "L" and non-detects "UL" as biased low.

<u>Metal</u>	<u>Associated Samples</u>
Thallium	BR-6, BR-5, BR-8, OB-2, OB-1, OB-7, OB-3, OB-4, OB-5, OB-8, OB-6, BR-2, BR-3, BR-4, BR-7
Arsenic	FB, OB-2, OB-1, OB-7, OB-3, OB-4, OB-5, OB-8, OB-6, BR-2, BR-3, BR-4
Selenium	OB-2, OB-1, OB-7, OB-3, OB-4, OB-5, OB-8, OB-6, BR-1, BR-2, BR-3, BR-4, BR-7, BR-6, BR-5, BR-8
Lead	OB-1, OB-7, OB-3, OB-4, OB-5, OB-8, OB-6, BR-2, BR-3, BR-4

- The post digestion total metals spikes were below control limits for the furnace metals. All positive results are flagged "L" and non-detects "UL" as biased low.

<u>Metals</u>	<u>Associated Samples</u>
Thallium	OB-2, OB-3, OB-4, OB-5, OB-8, OB-6, OB-1, BR-1, BR-2, BR-3, BR-4, B4-7, BR-6, BR-5
Arsenic	OB-5, OB-3
Selenium	OB-2, OB-7, OB-3, OB-4, OB-6, BR-1, BR-2, BR-3, BR-7, BR-6
Lead	OB-7, OB-5

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- Zinc, lead, beryllium, cobalt, and copper are present in field blanks, prepared water blanks, and/or continuing verification blanks for total metals. The reported presence of these metals above the instrument detection limit and less than 5 times the blank value are flagged "B" as questionable on the data summary sheets.

<u>Metals</u>	<u>Associated Samples</u>
Zinc	All
Lead	All
Beryllium	FB, OB-2, OB-1, OB-7, OB-4, OB-5, OB-8, OB-6, BR-1, BR-2, BR-3, BR-4, BR-7, BR-6, BR-5, BR-8
Cobalt	BR-2, BR-3, BR-4, BR-7, BR-6, BR-5

- Zinc was detected in the field blank and prepared water blank for dissolved metals. All results greater than the instrument detection limit and less than 5 times the blank value are flagged "B" as questionable.

C. Conclusion

Based upon the data provided, the majority of the organic and inorganic data appears to be acceptable. Three semi-volatile samples were extracted outside of hold times. These samples are technically non-compliant, and have been determined to be unacceptable for acid extractable compounds. The data validation review has identified aspects of the analytical data that require qualification. To confidently use any of the data within the data set, the data user should understand the limitations and qualifications presented.

AAW015A9

AR302833

Method 524.2

Client Name: Dames & Moore
 Client ID: 08-2
 Lab ID: 013072-0003-SA
 Matrix: AQUEOUS
 Authorized: 08 APR 91

Sampled: 03 APR 91
 Prepared: NA

Received: 06 APR 91
 Analyzed: 15 APR 91

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	0.16	ug/L	0.50 J
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	0.59	ug/L	0.50
1,2-Dichloroethane	0.18	ug/L	0.50 J
1,1-Dichloroethene	0.77	ug/L	0.50
cis-1,2-Dichloroethene	190	ug/L	10 D
trans-1,2-Dichloroethene	0.19	ug/L	0.50 J
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	0.23	ug/L	0.50 JB

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Martha Sullivan

Approved By: Khaja Eazazuddin

AR302834 · · 000006
AR302834

Safe Drinking Water Act Volatile Organics (CONT.)

Enseco
Analytical Services

Method 524.2

Client Name: Dames & Moore
 Client ID: OB-2
 Lab ID: 013072-0003-SA
 Matrix: AQUEOUS
 Authorized: 08 APR 91

Sampled: 03 APR 91
 Prepared: NA

Received: 06 APR 91
 Analyzed: 15 APR 91

Parameter	Result	Units	Reporting Limit
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	ND	ug/L	0.50
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	1.1	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	1100	ug/L	25
Trichlorofluoromethane	0.090	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50
Surrogate	Recovery		
4-Bromofluorobenzene	98	%	--

Note J : Result is detected below the reporting limit or is an estimated concentration.

Note D : Compound quantitated using a secondary dilution.

Note B : Compound is also detected in the blank.

ND = Not detected

NA = Not applicable

Reported By: Martha Sullivan

Approved By: Khaja Eazazuddin

000007

AR302835

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ENSECO-EAST

Contract: _____

OB-2

Lab Code: EEASTCase No.: 13072

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: 13072-0003Sample wt/vol: 1000 (g/mL) MLLab File ID: G0876Level: (low/med) LOWDate Received: 04/06/91

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/10/91Extraction: (SepF/Cont/Sonc) SEPFDate Analyzed: 05/09/91GPC Cleanup: (Y/N) N pH: 7.0Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/L
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl) Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl) Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy) Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl) Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl) Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy) Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ENSECO-EAST

Contract: _____

OB-2

Lab Code: EEAST

Case No.: 13072

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13072-0003

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: G0876

Level: (low/med) LOW

Date Received: 04/06/91

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/09/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
---------	----------	---	---

99-09-2-----	3-Nitroaniline	50	U
83-32-9-----	Acenaphthene	10	U
51-28-5-----	2,4-Dinitrophenol	50	U
100-02-7-----	4-Nitrophenol	50	U
132-64-9-----	Dibenzofuran	10	U
121-14-2-----	2,4-Dinitrotoluene	10	U
84-66-2-----	Diethylphthalate	10	U
7005-72-3-----	4-Chlorophenyl-phenylether	10	U
86-73-7-----	Fluorene	10	U
100-10-6-----	4-Nitroaniline	50	U
534-52-1-----	4,6-Dinitro-2-Methylphenol	50	U
86-30-6-----	N-Nitrosodiphenylamine (1)	10	U
101-55-3-----	4-Bromophenyl-phenylether	10	U
118-74-1-----	Hexachlorobenzene	10	U
87-86-5-----	Pentachlorophenol	50	U
85-01-8-----	Phenanthrene	10	U
120-12-7-----	Anthracene	10	U
84-74-2-----	Di-n-Butylphthalate	10	U
206-44-0-----	Fluoranthene	10	U
129-00-0-----	Pyrene	10	U
85-68-7-----	Butylbenzylphthalate	10	U
91-94-1-----	3,3'-Dichlorobenzidine	20	U
56-55-3-----	Benzo(a)Anthracene	10	U
218-01-9-----	Chrysene	10	U
117-81-7-----	bis(2-Ethylhexyl) Phthalate	2	J
117-84-0-----	Di-n-Octyl Phthalate	10	U
205-99-2-----	Benzo(b) Fluoranthene	10	U
207-08-9-----	Benzo(k) Fluoranthene	10	U
50-32-8-----	Benzo(a) Pyrene	10	U
193-39-5-----	Indeno(1,2,3-cd) Pyrene	10	U
53-70-3-----	Dibenz(a,h)Anthracene	10	U
191-24-2-----	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____1445202Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATER Lab Sample ID: OB-2Level (low/med): LOW Date Received: 04/06/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	26.0	U		P
7440-36-0	Antimony	16.0	U		P
7440-38-2	Arsenic	2.0	U	W	F
7440-39-3	Barium	117	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	10200	U		P
7440-47-3	Chromium	6.0	U		P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	20.0	U		P
7439-92-1	Lead	1.0	U		F
7439-95-4	Magnesium	7280	-		P
7439-96-5	Manganese	333	N		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	9.3	B		P
7440-09-7	Potassium	5240	U		P
7482-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	10900	*		P
7440-28-0	Thallium	1.0	U	W	F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	37.7	-		P
	Cyanide		-		NR

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____
Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

0000004

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____1444502Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATER Lab Sample ID: OB-2Level (low/med): LOW Date Received: 04/06/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1740	-		P
7440-36-0	Antimony	16.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	250			P
7440-41-7	Beryllium	1.5	B		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	10600			P
7440-47-3	Chromium	6.0	U		P
7440-48-4	Cobalt	5.9	B		P
7440-50-8	Copper	8.6	B		P
7439-89-6	Iron	2520			P
7439-92-1	Lead	7.9	-		F
7439-95-4	Magnesium	7770			P
7439-96-5	Manganese	976			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	14.2	B		P
7440-09-7	Potassium	2860	B		P
7482-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	11200			P
7440-28-0	Thallium	1.0	U	WN	F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	82.7			P
	Cyanide	10.0	U		AS

Color Before: RED
Color After: COLORLESSClarity Before: CLEAR
Clarity After: CLEARTexture: _____
Artifacts: _____

Comments:

FORM I - IN

7/88

AR302839

001238

Safe Drinking Water Act Volatile Organics

Enseco
Analytical Services

Method 524.2

Client Name: Dames & Moore
 Client ID: OB-1
 Lab ID: 013072-0004-SA
 Matrix: AQUEOUS
 Authorized: 08 APR 91

Sampled: 03 APR 91
 Prepared: NA

Received: 06 APR 91
 Analyzed: 16 APR 91

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	3.1	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	0.14	ug/L	0.50

JB

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Martha Sullivan

Approved By: Khaja Eazazuddin

000008

AR302840

Safe Drinking Water Act Volatile Organics (CONT.)

Enseco
Analytical Services

Method 524.2

Client Name: Dames & Moore
 Client ID: 08-1
 Lab ID: 013072-0004-SA
 Matrix: AQUEOUS
 Authorized: 08 APR 91

Sampled: 03 APR 91
 Prepared: NA

Received: 06 APR 91
 Analyzed: 16 APR 91

Parameter	Result	Units	Reporting Limit
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	ND	ug/L	0.50
Toluene	0.25	ug/L	0.50 J
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	0.070	ug/L	0.50 J
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	100	ug/L	5.0 D
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50
Surrogate	Recovery		
4-Bromofluorobenzene	95	%	--

Note J : Result is detected below the reporting limit or is an estimated concentration.

Note B : Compound is also detected in the blank.

Note D : Compound quantitated using a secondary dilution.

ND = Not detected

NA = Not applicable

Reported By: Martha Sullivan

Approved By: Khaja Eazazuddin

000009

AR302841

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ENSECO-EAST

Contract: _____

OB-1

Lab Code: EEAST Case No.: 13072

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13072-0020

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: G0931

Level: (low/med) LOW

Date Received: 04/06/91

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/12/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
---------	----------	---	---

108-95-2-----	Phenol	10	U
111-44-4-----	bis(2-Chloroethyl)Ether	10	U
95-57-8-----	2-Chlorophenol	10	U
541-73-1-----	1,3-Dichlorobenzene	10	U
106-46-7-----	1,4-Dichlorobenzene	10	U
100-51-6-----	Benzyl Alcohol	10	U
95-50-1-----	1,2-Dichlorobenzene	10	U
95-48-7-----	2-Methylphenol	10	U
39638-32-9-----	bis(2-Chloroisopropyl)Ether	10	U
106-44-5-----	4-Methylphenol	10	U
621-64-7-----	N-Nitroso-Di-n-Propylamine	10	U
67-72-1-----	Hexachloroethane	10	U
98-95-3-----	Nitrobenzene	10	U
78-59-1-----	Isophorone	10	U
88-75-5-----	2-Nitrophenol	10	U
105-67-9-----	2,4-Dimethylphenol	10	U
65-85-0-----	Benzoic Acid	50	U
111-91-1-----	bis(2-Chloroethoxy)Methane	10	U
120-83-2-----	2,4-Dichlorophenol	10	U
120-82-1-----	1,2,4-Trichlorobenzene	10	U
91-20-3-----	Naphthalene	10	U
106-47-8-----	4-Chloroaniline	10	U
87-68-3-----	Hexachlorobutadiene	10	U
59-50-7-----	4-Chloro-3-Methylphenol	10	U
91-57-6-----	2-Methylnaphthalene	10	U
77-47-4-----	Hexachlorocyclopentadiene	10	U
88-06-2-----	2,4,6-Trichlorophenol	10	U
95-95-4-----	2,4,5-Trichlorophenol	50	U
91-58-7-----	2-Chloronaphthalene	10	U
88-74-4-----	2-Nitroaniline	50	U
131-11-3-----	Dimethyl Phthalate	10	U
208-96-8-----	Acenaphthylene	10	U
606-20-2-----	2,6-Dinitrotoluene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OB-1

Lab Name: ENSECO-EAST

Contract: _____

Lab Code: EEAST Case No.: 13072 SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13072-0020

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: G0931

Level: (low/med) LOW

Date Received: 04/06/91

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/12/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
---------	----------	---	---

99-09-2-----	3-Nitroaniline	50	U
83-32-9-----	Acenaphthene	10	U
51-28-5-----	2,4-Dinitrophenol	50	U
100-02-7-----	4-Nitrophenol	50	U
132-64-9-----	Dibenzofuran	10	U
121-14-2-----	2,4-Dinitrotoluene	10	U
84-66-2-----	Diethylphthalate	10	U
7005-72-3-----	4-Chlorophenyl-phenylether	10	U
86-73-7-----	Fluorene	10	U
100-10-6-----	4-Nitroaniline	50	U
534-52-1-----	4,6-Dinitro-2-Methylphenol	50	U
86-30-6-----	N-Nitrosodiphenylamine (1)	10	U
101-55-3-----	4-Bromophenyl-phenylether	10	U
118-74-1-----	Hexachlorobenzene	10	U
87-86-5-----	Pentachlorophenol	50	U
85-01-8-----	Phenanthrene	10	U
120-12-7-----	Anthracene	10	U
84-74-2-----	Di-n-Butylphthalate	10	U
206-44-0-----	Fluoranthene	10	U
129-00-0-----	Pyrene	10	U
85-68-7-----	Butylbenzylphthalate	10	U
91-94-1-----	3,3'-Dichlorobenzidine	20	U
56-55-3-----	Benzo(a)Anthracene	10	U
218-01-9-----	Chrysene	10	U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	22	
117-84-0-----	Di-n-Octyl Phthalate	10	U
205-99-2-----	Benzo(b)Fluoranthene	10	U
207-08-9-----	Benzo(k)Fluoranthene	10	U
50-32-8-----	Benzo(a)Pyrene	10	U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3-----	Dibenz(a,h)Anthracene	10	U
191-24-2-----	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

0000011

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____1444509Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATER Lab Sample ID: OB-1Level (low/med): LOW Date Received: 04/06/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2140	-		P
7440-36-0	Antimony	16.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	103	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	41400	-		P
7440-47-3	Chromium	37.9	-		P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	13.3	B		P
7439-89-6	Iron	2210	-		P
7439-92-1	Lead	3.7	-		F
7439-95-4	Magnesium	8740	-		P
7439-96-5	Manganese	462	-		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	24.8	B		P
7440-09-7	Potassium	13900	-		P
7482-49-2	Selenium	20.0	U	N	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	35600	-		P
7440-28-0	Thallium	1.0	U	WN	F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	55.0	-		P
	Cyanide		-		NR

Color Before: RED
Color After: COLORLESSClarity Before: CLEAR
Clarity After: CLEARTexture:
Artifacts: _____

Comments:

TOTAL METALS ANALYSIS ONLY IS REQUIRED FOR THIS SAMPLE.
SELENIUM SAMPLE VALUE IS REPORTED AT A 10X DILUTION DUE TO MATRIX
INTERFERENCE.

FORM I - IN

7/88

AR302844

001245

0000005

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____

1445203

Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATER Lab Sample ID: OB-1Level (low/med): LOW Date Received: 04/06/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	26.0	U		P
7440-36-0	Antimony	16.0	U		P
7440-38-2	Arsenic	2.0	U	W	F
7440-39-3	Barium	58.5	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	28400			P
7440-47-3	Chromium	6.1	B		P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	12.3	B		P
7439-89-6	Iron	20.0	U		P
7439-92-1	Lead	1.0	U	W	F
7439-95-4	Magnesium	7610	-		P
7439-96-5	Manganese	284	N		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	7.0	U		P
7440-09-7	Potassium	13300			P
7482-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	32800	*		P
7440-28-0	Thallium	1.0	U	W	F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	15.5	B		P
	Cyanide		-		NR

Color Before: COLORLESS
Color After: COLORLESSClarity Before: CLEAR
Clarity After: CLEARTexture:
Artifacts: _____

Comments:

FORM I - IN

7/88

AR302845

001391

0000020

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATER Lab Sample ID: OB-1Level (low/med): LOW Date Received: 04/01/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony		-		NR
7440-38-2	Arsenic		-		NR
7440-39-3	Barium		-		NR
7440-41-7	Beryllium		-		NR
7440-43-9	Cadmium		-		NR
7440-70-2	Calcium		-		NR
7440-47-3	Chromium		-		NR
7440-48-4	Cobalt		-		NR
7440-50-8	Copper		-		NR
7439-89-6	Iron		-		NR
7439-92-1	Lead		-		NR
7439-95-4	Magnesium		-		NR
7439-96-5	Manganese		-		NR
7439-97-6	Mercury		-		NR
7440-02-0	Nickel		-		NR
7440-09-7	Potassium		-		NR
7482-49-2	Selenium		-		NR
7440-22-4	Silver		-		NR
7440-23-5	Sodium		-		NR
7440-28-0	Thallium		-		NR
7440-62-2	Vanadium		-		NR
7440-66-6	Zinc	10.0	U		AS
	Cyanide		-		

Color Before: YELLOW
Color After: COLORLESSClarity Before: CLEAR
Clarity After: CLEARTexture: _____
Artifacts: _____

Comments:

CYANIDE ANALYSIS ONLY IS REQUIRED FOR THIS SAMPLE.

FORM I - IN

7/88

001254

AR302846

Safe Drinking Water Act Volatile Organics

Enseco
Testing Services

Method 524.2

Client Name: Dames & Moore
 Client ID: 0B-3
 Lab ID: 013072-0006-SA
 Matrix: AQUEOUS
 Authorized: 08 APR 91

Sampled: 04 APR 91
 Prepared: NA

Received: 06 APR 91
 Analyzed: 16 APR 91

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	0.11	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	0.10	ug/L	0.50

J

JB

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Martha Sullivan

Approved By: Khaja Eazazuddin
AR302847

000012

Safe Drinking Water Act Volatile Organics (CONT.)

Enseco
Environmental Services

Method 524.2

Client Name: Dames & Moore
 Client ID: OB-3
 Lab ID: 013072-0006-SA
 Matrix: AQUEOUS
 Authorized: 08 APR 91

Sampled: 04 APR 91
 Prepared: NA

Received: 06 APR 91
 Analyzed: 16 APR 91

Parameter	Result	Units	Reporting Limit
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	ND	ug/L	0.50
Toluene	0.060	ug/L	0.50 J
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	ND	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	0.59	ug/L	0.50
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50
Surrogate	Recovery		
4-Bromofluorobenzene	97	%	--

Note J : Result is detected below the reporting limit or is an estimated concentration.

Note B : Compound is also detected in the blank.

ND = Not detected

NA = Not applicable

Reported By: Martha Sullivan

Approved By: Khaja Eazazuddin
 AR302848

000013

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ENSECO-EAST

Contract: _____

OB-3

Lab Code: EEAST Case No.: 13072

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13072-0006

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: G0878

Level: (low/med) LOW

Date Received: 04/06/91

* Moisture: not dec. dec.

Date Extracted: 04/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/09/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/L
108-95-2-----	Phenol	10	U
111-44-4-----	bis(2-Chloroethyl)Ether	10	U
95-57-8-----	2-Chlorophenol	10	U
541-73-1-----	1,3-Dichlorobenzene	10	U
106-46-7-----	1,4-Dichlorobenzene	10	U
100-51-6-----	Benzyl Alcohol	10	U
95-50-1-----	1,2-Dichlorobenzene	10	U
95-48-7-----	2-Methylphenol	10	U
39638-32-9-----	bis(2-Chloroisopropyl)Ether	10	U
106-44-5-----	4-Methylphenol	10	U
621-64-7-----	N-Nitroso-Di-n-Propylamine	10	U
67-72-1-----	Hexachloroethane	10	U
98-95-3-----	Nitrobenzene	10	U
78-59-1-----	Isophorone	10	U
88-75-5-----	2-Nitrophenol	10	U
105-67-9-----	2,4-Dimethylphenol	10	U
65-85-0-----	Benzoic Acid	50	U
111-91-1-----	bis(2-Chloroethoxy)Methane	10	U
120-83-2-----	2,4-Dichlorophenol	10	U
120-82-1-----	1,2,4-Trichlorobenzene	10	U
91-20-3-----	Naphthalene	10	U
106-47-8-----	4-Chloroaniline	10	U
87-68-3-----	Hexachlorobutadiene	10	U
59-50-7-----	4-Chloro-3-Methylphenol	10	U
91-57-6-----	2-Methylnaphthalene	10	U
77-47-4-----	Hexachlorocyclopentadiene	10	U
88-06-2-----	2,4,6-Trichlorophenol	10	U
95-95-4-----	2,4,5-Trichlorophenol	50	U
91-58-7-----	2-Chloronaphthalene	10	U
88-74-4-----	2-Nitroaniline	50	U
131-11-3-----	Dimethyl Phthalate	10	U
208-96-8-----	Acenaphthylene	10	U
606-20-2-----	2,6-Dinitrotoluene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ENSECO-EAST

Contract: _____

OB-3

Lab Code: EEASTCase No.: 13072

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: 13072-0006Sample wt/vol: 1000 (g/mL) MLLab File ID: G0878Level: (low/med) LOWDate Received: 04/06/91

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/10/91Extraction: (SepF/Cont/Sonc) SEPFDate Analyzed: 05/09/91GPC Cleanup: (Y/N) N pH: 7.0Dilution Factor: 1.0CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND	Q
99-09-2-----	3-Nitroaniline	50 U
83-32-9-----	Acenaphthene	10 U
51-28-5-----	2,4-Dinitrophenol	50 U
100-02-7-----	4-Nitrophenol	50 U
132-64-9-----	Dibenzofuran	10 U
121-14-2-----	2,4-Dinitrotoluene	10 U
84-66-2-----	Diethylphthalate	10 U
7005-72-3-----	4-Chlorophenyl-phenylether	10 U
86-73-7-----	Fluorene	10 U
100-10-6-----	4-Nitroaniline	50 U
534-52-1-----	4,6-Dinitro-2-Methylphenol	50 U
86-30-6-----	N-Nitrosodiphenylamine (1)	10 U
101-55-3-----	4-Bromophenyl-phenylether	10 U
118-74-1-----	Hexachlorobenzene	10 U
87-86-5-----	Pentachlorophenol	50 U
85-01-8-----	Phenanthrene	10 U
120-12-7-----	Anthracene	10 U
84-74-2-----	Di-n-Butylphthalate	10 U
206-44-0-----	Fluoranthene	10 U
129-00-0-----	Pyrene	10 U
85-68-7-----	Butylbenzylphthalate	10 U
91-94-1-----	3,3'-Dichlorobenzidine	20 U
56-55-3-----	Benzo(a)Anthracene	10 U
218-01-9-----	Chrysene	10 U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	10 U
117-84-0-----	Di-n-Octyl Phthalate	10 U
205-99-2-----	Benzo(b)Fluoranthene	10 U
207-08-9-----	Benzo(k)Fluoranthene	10 U
50-32-8-----	Benzo(a)Pyrene	10 U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	10 U
53-70-3-----	Dibenz(a,h)Anthracene	10 U
191-24-2-----	Benzo(g,h,i)Perylene	10 U

(1) - Cannot be separated from Diphenylamine

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ENSECO-EAST

Contract: _____

OB-3 RE

Lab Code: EEAST Case No.: 13072

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13072-0006RX

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: B1013

Level: (low/med) LOW

Date Received: 04/06/91

% Moisture: not dec. _____ dec. _____

Date Extracted: 05/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/14/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
---------	----------	---	---

108-95-2-----	Phenol	10	U
111-44-4-----	bis(2-Chloroethyl) Ether	10	U
95-57-8-----	2-Chlorophenol	10	U
541-73-1-----	1,3-Dichlorobenzene	10	U
106-46-7-----	1,4-Dichlorobenzene	10	U
100-51-6-----	Benzyl Alcohol	10	U
95-50-1-----	1,2-Dichlorobenzene	10	U
95-48-7-----	2-Methylphenol	10	U
39638-32-9-----	bis(2-Chloroisopropyl) Ether	10	U
106-44-5-----	4-Methylphenol	10	U
621-64-7-----	N-Nitroso-Di-n-Propylamine	10	U
67-72-1-----	Hexachloroethane	10	U
98-95-3-----	Nitrobenzene	10	U
78-59-1-----	Isophorone	10	U
88-75-5-----	2-Nitrophenol	10	U
105-67-9-----	2,4-Dimethylphenol	10	U
65-85-0-----	Benzoic Acid	50	U
111-91-1-----	bis(2-Chloroethoxy) Methane	10	U
120-83-2-----	2,4-Dichlorophenol	10	U
120-82-1-----	1,2,4-Trichlorobenzene	10	U
91-20-3-----	Naphthalene	10	U
106-47-8-----	4-Chloroaniline	10	U
87-68-3-----	Hexachlorobutadiene	10	U
59-50-7-----	4-Chloro-3-Methylphenol	10	U
91-57-6-----	2-Methylnaphthalene	10	U
77-47-4-----	Hexachlorocyclopentadiene	10	U
88-06-2-----	2,4,6-Trichlorophenol	10	U
95-95-4-----	2,4,5-Trichlorophenol	50	U
91-58-7-----	2-Chloronaphthalene	10	U
88-74-4-----	2-Nitroaniline	50	U
131-11-3-----	Dimethyl Phthalate	10	U
208-96-8-----	Acenaphthylene	10	U
606-20-2-----	2,6-Dinitrotoluene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ENSECO-EAST

Contract: _____

OB-3 RE

Lab Code: EEAST Case No.: 13072 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 13072-0006RX

Sample wt/vol: 1000 (g/mL) ML Lab File ID: B1013

Level: (low/med) LOW Date Received: 04/06/91

% Moisture: not dec. _____ dec. _____ Date Extracted: 05/10/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/14/91

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

<u>99-09-2-----3-Nitroaniline</u>	<u>50</u>	<u>U</u>
<u>83-32-9-----Acenaphthene</u>	<u>10</u>	<u>U</u>
<u>51-28-5-----2,4-Dinitrophenol</u>	<u>50</u>	<u>U</u>
<u>100-02-7-----4-Nitrophenol</u>	<u>50</u>	<u>U</u>
<u>132-64-9-----Dibenzofuran</u>	<u>10</u>	<u>U</u>
<u>121-14-2-----2,4-Dinitrotoluene</u>	<u>10</u>	<u>U</u>
<u>84-66-2-----Diethylphthalate</u>	<u>10</u>	<u>U</u>
<u>7005-72-3-----4-Chlorophenyl-phenylether</u>	<u>10</u>	<u>U</u>
<u>86-73-7-----Fluorene</u>	<u>10</u>	<u>U</u>
<u>100-10-6-----4-Nitroaniline</u>	<u>50</u>	<u>U</u>
<u>534-52-1-----4,6-Dinitro-2-Methylphenol</u>	<u>50</u>	<u>U</u>
<u>86-30-6-----N-Nitrosodiphenylamine (1)</u>	<u>10</u>	<u>U</u>
<u>101-55-3-----4-Bromophenyl-phenylether</u>	<u>10</u>	<u>U</u>
<u>118-74-1-----Hexachlorobenzene</u>	<u>10</u>	<u>U</u>
<u>87-86-5-----Pentachlorophenol</u>	<u>50</u>	<u>U</u>
<u>85-01-8-----Phenanthrene</u>	<u>10</u>	<u>U</u>
<u>120-12-7-----Anthracene</u>	<u>10</u>	<u>U</u>
<u>84-74-2-----Di-n-Butylphthalate</u>	<u>10</u>	<u>U</u>
<u>206-44-0-----Fluoranthene</u>	<u>10</u>	<u>U</u>
<u>129-00-0-----Pyrene</u>	<u>10</u>	<u>U</u>
<u>85-68-7-----Butylbenzylphthalate</u>	<u>10</u>	<u>U</u>
<u>91-94-1-----3,3'-Dichlorobenzidine</u>	<u>20</u>	<u>U</u>
<u>56-55-3-----Benzo(a)Anthracene</u>	<u>10</u>	<u>U</u>
<u>218-01-9-----Chrysene</u>	<u>10</u>	<u>U</u>
<u>117-81-7-----bis(2-Ethylhexyl)Phthalate</u>	<u>10</u>	<u>U</u>
<u>117-84-0-----Di-n-Octyl Phthalate</u>	<u>10</u>	<u>U</u>
<u>205-99-2-----Benzo(b)Fluoranthene</u>	<u>10</u>	<u>U</u>
<u>207-08-9-----Benzo(k)Fluoranthene</u>	<u>10</u>	<u>U</u>
<u>50-32-8-----Benzo(a)Pyrene</u>	<u>10</u>	<u>U</u>
<u>193-39-5-----Indeno(1,2,3-cd)Pyrene</u>	<u>10</u>	<u>U</u>
<u>53-70-3-----Dibenz(a,h)Anthracene</u>	<u>10</u>	<u>U</u>
<u>191-24-2-----Benzo(g,h,i)Perylene</u>	<u>10</u>	<u>U</u>

(1) - Cannot be separated from Diphenylamine

0000007

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____1445205Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATER Lab Sample ID: OB-3Level (low/med): LOW Date Received: 04/06/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	26.0	U		P
7440-36-0	Antimony	16.0	U		P
7440-38-2	Arsenic	2.0	U	W	F
7440-39-3	Barium	52.6	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	8750			P
7440-47-3	Chromium	6.0	U		P
7440-48-4	Cobalt	84.9			P
7440-50-8	Copper	15.6	B		P
7439-89-6	Iron	20.0	U		P
7439-92-1	Lead	1.0	U	W	F
7439-95-4	Magnesium	9210	-		P
7439-96-5	Manganese	2960		N	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	32.5	B		P
7440-09-7	Potassium	5190			P
7482-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	5720		*	P
7440-28-0	Thallium	1.0	U	W	F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	49.2			P
	Cyanide				NR

Color Before: COLORLESS
Color After: COLORLESSClarity Before: CLEAR
Clarity After: CLEARTexture:
Artifacts: _____

Comments:

FORM I - IN

7/88

AR302853

001393

0000006

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

1444504

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATER Lab Sample ID: OB-3Level (low/med): LOW Date Received: 04/06/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	12800	-		P
7440-36-0	Antimony	16.0	U		P
7440-38-2	Arsenic	3.0	B		F
7440-39-3	Barium	195	B		P
7440-41-7	Beryllium	2.2	B		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	9670	-		P
7440-47-3	Chromium	24.8	-		P
7440-48-4	Cobalt	112	-		P
7440-50-8	Copper	16.2	B		P
7439-89-6	Iron	21900	-		P
7439-92-1	Lead	18.6	-	S	F
7439-95-4	Magnesium	12500	-		P
7439-96-5	Manganese	3750	-		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	60.0	-		P
7440-09-7	Potassium	4760	B		P
7482-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	5780	-		P
7440-28-0	Thallium	1.0	U	WN	F
7440-62-2	Vanadium	27.6	B		P
7440-66-6	Zinc	107	U		P
	Cyanide	10.0	U		AS

Color Before: RED
Color After: COLORLESSClarity Before: CLOUDY
Clarity After: CLEARTexture: _____
Artifacts: _____

Comments:

FORM I - IN

7/88

001240

AR302854

Safe Drinking Water Act Volatile Organics

Enseco
Environmental Services

Method 524.2

Client Name: Dames & Moore
 Client ID: OB-4
 Lab ID: 013072-0007-SA
 Matrix: AQUEOUS
 Authorized: 08 APR 91

Sampled: 04 APR 91
 Prepared: NA

Received: 06 APR 91
 Analyzed: 16 APR 91

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	0.66	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	0.15	ug/L	0.50

JB

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Martha Sullivan

Approved By: AR302855

000014

Safe Drinking Water Act Volatile Organics (CONT.)

Enseco
An Enserch Company

Method 524.2

Client Name: Dames & Moore

Client ID: 08-4

Lab ID: 013072-0007-SA

Matrix: AQUEOUS

Authorized: 08 APR 91

Sampled: 04 APR 91

Prepared: NA

Received: 06 APR 91

Analyzed: 16 APR 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethylene	ND	ug/L	0.50	
Toluene	0.13	ug/L	0.50	J
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	0.050	ug/L	0.50	J
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethylene	7.7	ug/L	0.50	
Trichlorofluoromethane	ND	ug/L	0.50	
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	ND	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	
Surrogate		Recovery		
4-Bromofluorobenzene	98	%	--	

Note J : Result is detected below the reporting limit or is an estimated concentration.

Note B : Compound is also detected in the blank.

ND = Not detected

NA = Not applicable

Reported By: Martha Sullivan

Approved By: Khaja Eazazuddin
AR302856

000015

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OB-4

Lab Name: ENSECO-EAST

Contract: _____

Lab Code: EEAST

Case No.: 13072

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13072-0007

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: G0888

Level: (low/med) LOW

Date Received: 04/06/91

% Moisture: not dec. dec.

Date Extracted: 04/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/10/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND			
108-95-2-----	Phenol	10	U	
111-44-4-----	bis(2-Chloroethyl) Ether	10	U	
95-57-8-----	2-Chlorophenol	10	U	
541-73-1-----	1,3-Dichlorobenzene	10	U	
106-46-7-----	1,4-Dichlorobenzene	10	U	
100-51-6-----	Benzyl Alcohol	10	U	
95-50-1-----	1,2-Dichlorobenzene	10	U	
95-48-7-----	2-Methylphenol	10	U	
39638-32-9-----	bis(2-Chloroisopropyl) Ether	10	U	
106-44-5-----	4-Methylphenol	10	U	
621-64-7-----	N-Nitroso-Di-n-Propylamine	10	U	
67-72-1-----	Hexachloroethane	10	U	
98-95-3-----	Nitrobenzene	10	U	
78-59-1-----	Isophorone	10	U	
88-75-5-----	2-Nitrophenol	10	U	
105-67-9-----	2,4-Dimethylphenol	10	U	
65-85-0-----	Benzoic Acid	50	U	
111-91-1-----	bis(2-Chloroethoxy) Methane	10	U	
120-83-2-----	2,4-Dichlorophenol	10	U	
120-82-1-----	1,2,4-Trichlorobenzene	10	U	
91-20-3-----	Naphthalene	10	U	
106-47-8-----	4-Chloroaniline	10	U	
87-68-3-----	Hexachlorobutadiene	10	U	
59-50-7-----	4-Chloro-3-Methylphenol	10	U	
91-57-6-----	2-Methylnaphthalene	10	U	
77-47-4-----	Hexachlorocyclopentadiene	10	U	
88-06-2-----	2,4,6-Trichlorophenol	10	U	
95-95-4-----	2,4,5-Trichlorophenol	50	U	
91-58-7-----	2-Chloronaphthalene	10	U	
88-74-4-----	2-Nitroaniline	50	U	
131-11-3-----	Dimethyl Phthalate	10	U	
208-96-8-----	Acenaphthylene	10	U	
606-20-2-----	2,6-Dinitrotoluene	10	U	

1C
SEMOVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ENSECO-EAST

Contract: _____

OB-4

Lab Code: EEAST

Case No.: 13072

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13072-0007

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: G0888

Level: (low/med) LOW

Date Received: 04/06/91

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/10/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
---------	----------	---	---

99-09-2-----	3-Nitroaniline	50	U
83-32-9-----	Acenaphthene	10	U
51-28-5-----	2,4-Dinitrophenol	50	U
100-02-7-----	4-Nitrophenol	50	U
132-64-9-----	Dibenzofuran	10	U
121-14-2-----	2,4-Dinitrotoluene	10	U
84-66-2-----	Diethylphthalate	10	U
7005-72-3-----	4-Chlorophenyl-phenylether	10	U
86-73-7-----	Fluorene	10	U
100-10-6-----	4-Nitroaniline	50	U
534-52-1-----	4,6-Dinitro-2-Methylphenol	50	U
86-30-6-----	N-Nitrosodiphenylamine (1)	10	U
101-55-3-----	4-Bromophenyl-phenylether	10	U
118-74-1-----	Hexachlorobenzene	10	U
87-86-5-----	Pentachlorophenol	50	U
85-01-8-----	Phenanthrene	10	U
120-12-7-----	Anthracene	10	U
84-74-2-----	Di-n-Butylphthalate	10	U
206-44-0-----	Fluoranthene	10	U
129-00-0-----	Pyrene	10	U
85-68-7-----	Butylbenzylphthalate	10	U
91-94-1-----	3,3'-Dichlorobenzidine	20	U
56-55-3-----	Benzo(a)Anthracene	10	U
218-01-9-----	Chrysene	10	U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	1	J
117-84-0-----	Di-n-Octyl Phthalate	10	U
205-99-2-----	Benzo(b)Fluoranthene	10	U
207-08-9-----	Benzo(k)Fluoranthene	10	U
50-32-8-----	Benzo(a)Pyrene	10	U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3-----	Dibenz(a,h)Anthracene	10	U
191-24-2-----	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

0000008

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____1445206Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATER Lab Sample ID: OB-4Level (low/med): LOW Date Received: 04/06/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	26.0	U		P
7440-36-0	Antimony	16.0	U		P
7440-38-2	Arsenic	2.0	U	W	F
7440-39-3	Barium	72.8	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	9900			P
7440-47-3	Chromium	6.0	U		P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	20.0	U		P
7439-92-1	Lead	1.0	U	W	F
7439-95-4	Magnesium	5190	-		P
7439-96-5	Manganese	275	N		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	7.0	U		P
7440-09-7	Potassium	5700			P
7482-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	6480	*		P
7440-28-0	Thallium	1.0	U	W	F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	55.9	-		P
	Cyanide		-		NR

Color Before: COLORLESS
Color After: COLORLESSClarity Before: CLEAR
Clarity After: CLEARTexture: _____
Artifacts: _____

Comments:

FORM I - IN

7/88

AR302859

001394

0000007

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

1444505

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATERLab Sample ID: OB-4Level (low/med): LOWDate Received: 04/06/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4060	-		P
7440-36-0	Antimony	16.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	148	B		P
7440-41-7	Beryllium	1.2	B		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	10800	-		P
7440-47-3	Chromium	7.6	B		P
7440-48-4	Cobalt	6.8	B		P
7440-50-8	Copper	8.4	B		P
7439-89-6	Iron	6030	-		P
7439-92-1	Lead	3.3	-		F
7439-95-4	Magnesium	6290	-		P
7439-96-5	Manganese	539	-		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	14.2	B		P
7440-09-7	Potassium	4420	B		P
7482-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	6840	-		P
7440-28-0	Thallium	1.0	U	WN	F
7440-62-2	Vanadium	6.5	B		P
7440-66-6	Zinc	48.6	-		P
	Cyanide	10.0	U		AS

Color Before: RED
Color After: COLORLESSClarity Before: CLOUDY
Clarity After: CLEARTexture:
Artifacts: _____

Comments:

FORM I - IN

7/88

001241

AR302860

Safe Drinking Water Act Volatile Organics

Enseco
Analytical Services

Method 524.2

Client Name: Dames & Moore
 Client ID: 08-5
 Lab ID: 013072-0008-SA
 Matrix: AQUEOUS
 Authorized: 08 APR 91

Sampled: 04 APR 91
 Prepared: NA

Received: 06 APR 91
 Analyzed: 16 APR 91

Parameter	Result	Units	Reporting Limit	
Benzene	0.12	ug/L	0.50	J
Bromobenzene	ND	ug/L	0.50	
Bromochloromethane	ND	ug/L	0.50	
Bromodichloromethane	ND	ug/L	0.50	
Bromoform	ND	ug/L	0.50	
Bromomethane	ND	ug/L	0.50	
n-Butylbenzene	ND	ug/L	0.50	
sec-Butylbenzene	ND	ug/L	0.50	
tert-Butylbenzene	ND	ug/L	0.50	
Carbon tetrachloride	ND	ug/L	0.50	
Chlorobenzene	ND	ug/L	0.50	
Chloroethane	ND	ug/L	0.50	
Chloroform	0.060	ug/L	0.50	J
Chloromethane	ND	ug/L	0.50	
2-Chlorotoluene	ND	ug/L	0.50	
4-Chlorotoluene	ND	ug/L	0.50	
Dibromochloromethane	ND	ug/L	0.50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	
Dibromomethane	ND	ug/L	0.50	
1,2-Dichlorobenzene	0.21	ug/L	0.50	J
1,3-Dichlorobenzene	ND	ug/L	0.50	
1,4-Dichlorobenzene	ND	ug/L	0.50	
Dichlorodifluoromethane	ND	ug/L	0.50	
1,1-Dichloroethane	2.5	ug/L	0.50	
1,2-Dichloroethane	2.9	ug/L	0.50	
1,1-Dichloroethene	0.28	ug/L	0.50	J
cis-1,2-Dichloroethene	53	ug/L	10	D
trans-1,2-Dichloroethene	0.33	ug/L	0.50	J
1,2-Dichloropropane	ND	ug/L	0.50	
1,3-Dichloropropane	ND	ug/L	0.50	
2,2-Dichloropropane	ND	ug/L	0.50	
1,1-Dichloropropene	ND	ug/L	0.50	
cis-1,3-Dichloropropene	ND	ug/L	0.50	
trans-1,3-Dichloropropene	ND	ug/L	0.50	
Ethylbenzene	ND	ug/L	0.50	
Hexachlorobutadiene	ND	ug/L	0.50	
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50	
Methylene chloride	0.99	ug/L	0.50	B

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Martha Sullivan

Approved By: Khaja Eazazuddin

000016

AR302861

Safe Drinking Water Act Volatile Organics (CONT.)

Enseco
Analytical Services

Method 524.2

Client Name: Dames & Moore
 Client ID: 0B-5
 Lab ID: 013072-0008-SA
 Matrix: AQUEOUS
 Authorized: 08 APR 91

Sampled: 04 APR 91
 Prepared: NA

Received: 06 APR 91
 Analyzed: 16 APR 91

Parameter	Result	Units	Reporting Limit
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	0.12	ug/L	0.50 J
Toluene	0.25	ug/L	0.50 J
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	2.4	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	510	ug/L	10 D
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	0.080	ug/L	0.50 J
Surrogate		Recovery	
4-Bromofluorobenzene	98	%	--

Note J : Result is detected below the reporting limit or is an estimated concentration.

Note D : Compound quantitated using a secondary dilution.

Note B : Compound is also detected in the blank.

ND = Not detected

NA = Not applicable

Reported By: Martha Sullivan

Approved By: Khaja Eazazuddin

000017

AR302862

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OB-5

Lab Name: ENSECO-EAST

Contract: _____

Lab Code: EEAST Case No.: 13072

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13072-0008

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: G0889

Level: (low/med) LOW

Date Received: 04/06/91

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/10/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) <u>UG/L</u>	Q
108-95-2-----	Phenol	10	U
111-44-4-----	bis(2-Chloroethyl) Ether	10	U
95-57-8-----	2-Chlorophenol	10	U
541-73-1-----	1,3-Dichlorobenzene	10	U
106-46-7-----	1,4-Dichlorobenzene	10	U
100-51-6-----	Benzyl Alcohol	10	U
95-50-1-----	1,2-Dichlorobenzene	10	U
95-48-7-----	2-Methylphenol	10	U
39638-32-9-----	bis(2-Chloroisopropyl) Ether	10	U
106-44-5-----	4-Methylphenol	10	U
621-64-7-----	N-Nitroso-Di-n-Propylamine	10	U
67-72-1-----	Hexachloroethane	10	U
98-95-3-----	Nitrobenzene	10	U
78-59-1-----	Isophorone	10	U
88-75-5-----	2-Nitrophenol	10	U
105-67-9-----	2,4-Dimethylphenol	10	U
65-85-0-----	Benzoic Acid	50	U
111-91-1-----	bis(2-Chloroethoxy) Methane	10	U
120-83-2-----	2,4-Dichlorophenol	10	U
120-82-1-----	1,2,4-Trichlorobenzene	10	U
91-20-3-----	Naphthalene	10	U
106-47-8-----	4-Chloroaniline	10	U
87-68-3-----	Hexachlorobutadiene	10	U
59-50-7-----	4-Chloro-3-Methylphenol	10	U
91-57-6-----	2-Methylnaphthalene	10	U
77-47-4-----	Hexachlorocyclopentadiene	10	U
88-06-2-----	2,4,6-Trichlorophenol	10	U
95-95-4-----	2,4,5-Trichlorophenol	50	U
91-58-7-----	2-Choronaphthalene	10	U
88-74-4-----	2-Nitroaniline	50	U
131-11-3-----	Dimethyl Phthalate	10	U
208-96-8-----	Acenaphthylen	10	U
606-20-2-----	2,6-Dinitrotoluene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ENSECO-EAST

Contract: _____

OB-5

Lab Code: EEAST Case No.: 13072

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13072-0008

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: G0889

Level: (low/med) LOW

Date Received: 04/06/91

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/10/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
---------	----------	---	------	---

99-09-2-----	3-Nitroaniline	50	U
83-32-9-----	Acenaphthene	10	U
51-28-5-----	2,4-Dinitrophenol	50	U
100-02-7-----	4-Nitrophenol	50	U
132-64-9-----	Dibenzofuran	10	U
121-14-2-----	2,4-Dinitrotoluene	10	U
84-66-2-----	Diethylphthalate	10	U
7005-72-3-----	4-Chlorophenyl-phenylether	10	U
86-73-7-----	Fluorene	10	U
100-10-6-----	4-Nitroaniline	50	U
534-52-1-----	4,6-Dinitro-2-Methylphenol	50	U
86-30-6-----	N-Nitrosodiphenylamine (1)	10	U
101-55-3-----	4-Bromophenyl-phenylether	10	U
118-74-1-----	Hexachlorobenzene	10	U
87-86-5-----	Pentachlorophenol	50	U
85-01-8-----	Phenanthrene	10	U
120-12-7-----	Anthracene	10	U
84-74-2-----	Di-n-Butylphthalate	10	U
206-44-0-----	Fluoranthene	10	U
129-00-0-----	Pyrene	10	U
85-68-7-----	Butylbenzylphthalate	10	U
91-94-1-----	3,3'-Dichlorobenzidine	20	U
56-55-3-----	Benzo(a)Anthracene	10	U
218-01-9-----	Chrysene	10	U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0-----	Di-n-Octyl Phthalate	10	U
205-99-2-----	Benzo(b)Fluoranthene	10	U
207-08-9-----	Benzo(k)Fluoranthene	10	U
50-32-8-----	Benzo(a)Pyrene	10	U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3-----	Dibenz(a,h)Anthracene	10	U
191-24-2-----	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

0000009

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____

1445207

Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATER Lab Sample ID: OB-5Level (low/med): LOW Date Received: 04/06/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	26.0	U		P
7440-36-0	Antimony	17.5	B		P
7440-38-2	Arsenic	2.0	U	W	F
7440-39-3	Barium	57.2	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	10400	U		P
7440-47-3	Chromium	6.0	U		P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	14.6	B		P
7439-89-6	Iron	20.0	U		P
7439-92-1	Lead	1.0	U	W	F
7439-95-4	Magnesium	9160	-		P
7439-96-5	Manganese	53.5	N		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	13.7	B		P
7440-09-7	Potassium	3500	B		P
7482-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	29400	*		P
7440-28-0	Thallium	1.0	U	W	F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	55.3	-		P
	Cyanide		-		NR

Color Before: COLORLESS
Color After: COLORLESSClarity Before: CLEAR
Clarity After: CLEARTexture:
Artifacts: _____

Comments:

FORM I - IN

7/88

001395

AR302865

0000008

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____1444506Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATER Lab Sample ID: OB-5Level (low/med): LOW Date Received: 04/06/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	16600	-		P
7440-36-0	Antimony	16.0	U		P
7440-38-2	Arsenic	3.8	B	W	F
7440-39-3	Barium	205	-		P
7440-41-7	Beryllium	1.6	B		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	11100	-		P
7440-47-3	Chromium	25.4	-		P
7440-48-4	Cobalt	20.0	B		P
7440-50-8	Copper	27.6	-		P
7439-89-6	Iron	30300	-		P
7439-92-1	Lead	17.3	-	S	F
7439-95-4	Magnesium	13100	-		P
7439-96-5	Manganese	1220	-		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	42.9	-		P
7440-09-7	Potassium	4320	B		P
7482-49-2	Selenium	20.0	U	N	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	28400	-		P
7440-28-0	Thallium	1.0	U	WN	F
7440-62-2	Vanadium	35.2	B		P
7440-66-6	Zinc	99.2	U		P
	Cyanide	10.0	U		AS

Color Before: RED
Color After: COLORLESSClarity Before: CLOUDY
Clarity After: CLEARTexture: _____
Artifacts: _____

Comments:

SELENIUM SAMPLE VALUE IS REPORTED AT A 10X DILUTION DUE TO MATRIX INTERFERENCE.

FORM I - IN

7/88

AR302866

001242

Safe Drinking Water Act Volatile Organics

Enseco
An environmental company

Method 524.2

Client Name: Dames & Moore
 Client ID: 0B-6
 Lab ID: 013072-0010-SA
 Matrix: AQUEOUS
 Authorized: 08 APR 91

Sampled: 04 APR 91
 Prepared: NA

Received: 06 APR 91
 Analyzed: 16 APR 91

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	0.15	ug/L	0.50 J
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	0.31	ug/L	0.50 J
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	ND	ug/L	0.50

(continued on following page)

ND = Not detected

NA = Not applicable

000020

Reported By: Martha Sullivan

Approved By: Khaja Eazazuddin

AR302867

Safe Drinking Water Act Volatile Organics (CONT.)

Enseco
Analytical Services

Method 524.2

Client Name: Dames & Moore
 Client ID: 08-6
 Lab ID: 013072-0010-SA
 Matrix: AQUEOUS
 Authorized: 08 APR 91

Sampled: 04 APR 91
 Prepared: NA

Received: 06 APR 91
 Analyzed: 16 APR 91

Parameter	Result	Units	Reporting Limit
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	13	ug/L	0.50
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	0.070	ug/L	0.50 J
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	1.9	ug/L	0.50
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50
Surrogate		Recovery	
4-Bromofluorobenzene	100	%	--

Note J : Result is detected below the reporting limit or is an estimated concentration.

ND = Not detected

NA = Not applicable

Reported By: Martha Sullivan

Approved By: Khaja Eazazuddin .

AR302868

000021

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OB-6

Lab Name: ENSECO-EAST

Contract: _____

Lab Code: EEAST Case No.: 13072

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13072-0010

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: G0891

Level: (low/med) LOW

Date Received: 04/06/91

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/10/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND	10	U
108-95-2-----	Phenol	10	U
111-44-4-----	bis(2-Chloroethyl) Ether	10	U
95-57-8-----	2-Chlorophenol	10	U
541-73-1-----	1,3-Dichlorobenzene	10	U
106-46-7-----	1,4-Dichlorobenzene	10	U
100-51-6-----	Benzyl Alcohol	10	U
95-50-1-----	1,2-Dichlorobenzene	10	U
95-48-7-----	2-Methylphenol	10	U
39638-32-9-----	bis(2-Chloroisopropyl) Ether	10	U
106-44-5-----	4-Methylphenol	10	U
621-64-7-----	N-Nitroso-Di-n-Propylamine	10	U
67-72-1-----	Hexachloroethane	10	U
98-95-3-----	Nitrobenzene	10	U
78-59-1-----	Isophorone	10	U
88-75-5-----	2-Nitrophenol	10	U
105-67-9-----	2,4-Dimethylphenol	10	U
65-85-0-----	Benzoic Acid	50	U
111-91-1-----	bis(2-Chloroethoxy) Methane	10	U
120-83-2-----	2,4-Dichlorophenol	10	U
120-82-1-----	1,2,4-Trichlorobenzene	10	U
91-20-3-----	Naphthalene	10	U
106-47-8-----	4-Chloroaniline	10	U
87-68-3-----	Hexachlorobutadiene	10	U
59-50-7-----	4-Chloro-3-Methylphenol	10	U
91-57-6-----	2-Methylnaphthalene	10	U
77-47-4-----	Hexachlorocyclopentadiene	10	U
88-06-2-----	2,4,6-Trichlorophenol	10	U
95-95-4-----	2,4,5-Trichlorophenol	50	U
91-58-7-----	2-Chloronaphthalene	10	U
88-74-4-----	2-Nitroaniline	50	U
131-11-3-----	Dimethyl Phthalate	10	U
208-96-8-----	Acenaphthylene	10	U
606-20-2-----	2,6-Dinitrotoluene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ENSECO-EAST

Contract: _____

OB-6

Lab Code: EEAST Case No.: 13072

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13072-0010

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: G0891

Level: (low/med) LOW

Date Received: 04/06/91

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/10/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
99-09-2-----	3-Nitroaniline	50	U	
83-32-9-----	Acenaphthene	10	U	
51-28-5-----	2,4-Dinitrophenol	50	U	
100-02-7-----	4-Nitrophenol	50	U	
132-64-9-----	Dibenzofuran	10	U	
121-14-2-----	2,4-Dinitrotoluene	10	U	
84-66-2-----	Diethylphthalate	10	U	
7005-72-3-----	4-Chlorophenyl-phenylether	10	U	
86-73-7-----	Fluorene	10	U	
100-10-6-----	4-Nitroaniline	50	U	
534-52-1-----	4,6-Dinitro-2-Methylphenol	50	U	
86-30-6-----	N-Nitrosodiphenylamine (1)	10	U	
101-55-3-----	4-Bromophenyl-phenylether	10	U	
118-74-1-----	Hexachlorobenzene	10	U	
87-86-5-----	Pentachlorophenol	50	U	
85-01-8-----	Phenanthrene	10	U	
120-12-7-----	Anthracene	10	U	
84-74-2-----	Di-n-Butylphthalate	10	U	
206-44-0-----	Fluoranthene	10	U	
129-00-0-----	Pyrene	10	U	
85-68-7-----	Butylbenzylphthalate	10	U	
91-94-1-----	3,3'-Dichlorobenzidine	20	U	
56-55-3-----	Benzo(a)Anthracene	10	U	
218-01-9-----	Chrysene	10	U	
117-81-7-----	bis(2-Ethylhexyl)Phthalate	10	U	
117-84-0-----	Di-n-Octyl Phthalate	10	U	
205-99-2-----	Benzo(b)Fluoranthene	10	U	
207-08-9-----	Benzo(k)Fluoranthene	10	U	
50-32-8-----	Benzo(a)Pyrene	10	U	
193-39-5-----	Indeno(1,2,3-cd)Pyrene	10	U	
53-70-3-----	Dibenz(a,h)Anthracene	10	U	
191-24-2-----	Benzo(g,h,i)Perylene	10	U	

(1) - Cannot be separated from Diphenylamine

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ENSECO-EAST

Contract: _____

OB-6 RE

Lab Code: EEAST Case No.: 13072

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13072-0010RX

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: B1014

Level: (low/med) LOW

Date Received: 04/06/91

% Moisture: not dec. _____ dec. _____

Date Extracted: 05/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/14/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
108-95-2-----	Phenol	10	U
111-44-4-----	bis(2-Chloroethyl) Ether	10	U
95-57-8-----	2-Chlorophenol	10	U
541-73-1-----	1,3-Dichlorobenzene	10	U
106-46-7-----	1,4-Dichlorobenzene	10	U
100-51-6-----	Benzyl Alcohol	10	U
95-50-1-----	1,2-Dichlorobenzene	10	U
95-48-7-----	2-Methylphenol	10	U
39638-32-9-----	bis(2-Chloroisopropyl) Ether	10	U
106-44-5-----	4-Methylphenol	10	U
621-64-7-----	N-Nitroso-Di-n-Propylamine	10	U
67-72-1-----	Hexachloroethane	10	U
98-95-3-----	Nitrobenzene	10	U
78-59-1-----	Isophorone	10	U
88-75-5-----	2-Nitrophenol	10	U
105-67-9-----	2,4-Dimethylphenol	10	U
65-85-0-----	Benzoic Acid	50	U
111-91-1-----	bis(2-Chloroethoxy) Methane	10	U
120-83-2-----	2,4-Dichlorophenol	10	U
120-82-1-----	1,2,4-Trichlorobenzene	10	U
91-20-3-----	Naphthalene	10	U
106-47-8-----	4-Chloroaniline	10	U
87-68-3-----	Hexachlorobutadiene	10	U
59-50-7-----	4-Chloro-3-Methylphenol	10	U
91-57-6-----	2-Methylnaphthalene	10	U
77-47-4-----	Hexachlorocyclopentadiene	10	U
88-06-2-----	2,4,6-Trichlorophenol	10	U
95-95-4-----	2,4,5-Trichlorophenol	50	U
91-58-7-----	2-Chloronaphthalene	10	U
88-74-4-----	2-Nitroaniline	50	U
131-11-3-----	Dimethyl Phthalate	10	U
208-96-8-----	Acenaphthylene	10	U
606-20-2-----	2,6-Dinitrotoluene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ENSECO-EAST

Contract: _____

OB-6 RE

Lab Code: EEAST Case No.: 13072

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13072-0010RX

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: B1014

Level: (low/med) LOW

Date Received: 04/06/91

% Moisture: not dec. _____ dec. _____

Date Extracted: 05/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/14/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

99-09-2-----	3-Nitroaniline	50	U
83-32-9-----	Acenaphthene	10	U
51-28-5-----	2,4-Dinitrophenol	50	U
100-02-7-----	4-Nitrophenol	50	U
132-64-9-----	Dibenzofuran	10	U
121-14-2-----	2,4-Dinitrotoluene	10	U
84-66-2-----	Diethylphthalate	10	U
7005-72-3-----	4-Chlorophenyl-phenylether	10	U
86-73-7-----	Fluorene	10	U
100-10-6-----	4-Nitroaniline	50	U
534-52-1-----	4,6-Dinitro-2-Methylphenol	50	U
86-30-6-----	N-Nitrosodiphenylamine (1)	10	U
101-55-3-----	4-Bromophenyl-phenylether	10	U
118-74-1-----	Hexachlorobenzene	10	U
87-86-5-----	Pentachlorophenol	50	U
85-01-8-----	Phenanthrene	10	U
120-12-7-----	Anthracene	10	U
84-74-2-----	Di-n-Butylphthalate	10	U
206-44-0-----	Fluoranthene	10	U
129-00-0-----	Pyrene	10	U
85-68-7-----	Butylbenzylphthalate	10	U
91-94-1-----	3,3'-Dichlorobenzidine	20	U
56-55-3-----	Benzo(a)Anthracene	10	U
218-01-9-----	Chrysene	10	U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0-----	Di-n-Octyl Phthalate	10	U
205-99-2-----	Benzo(b)Fluoranthene	10	U
207-08-9-----	Benzo(k)Fluoranthene	10	U
50-32-8-----	Benzo(a)Pyrene	10	U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3-----	Dibenz(a,h)Anthracene	10	U
191-24-2-----	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

0000011

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

1445209

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATER Lab Sample ID: OB-6Level (low/med): LOW Date Received: 04/06/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	671	-		P
7440-36-0	Antimony	16.0	U		P
7440-38-2	Arsenic	2.0	U	W	F
7440-39-3	Barium	27.5	B		P
7440-41-7	Beryllium	2.4	B		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	18700			P
7440-47-3	Chromium	6.0	U		P
7440-48-4	Cobalt	20.6	B		P
7440-50-8	Copper	18.4	B		P
7439-89-6	Iron	20.0	U		P
7439-92-1	Lead	1.0	U	W	F
7439-95-4	Magnesium	10500	-		P
7439-96-5	Manganese	1340		N	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	29.7	B		P
7440-09-7	Potassium	2570	B		P
7482-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	18000	*		P
7440-28-0	Thallium	1.0	U	W	F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	97.4	-		P
	Cyanide		-		NR

Color Before: COLORLESS
Color After: COLORLESSClarity Before: CLEAR
Clarity After: CLEARTexture: _____
Artifacts: _____

Comments:

FORM I - IN

7/88

AR302873

001397

0000010

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

1444508

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATER Lab Sample ID: OB-6Level (low/med): LOW Date Received: 04/06/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2010	-		P
7440-36-0	Antimony	16.0	U		P
7440-38-2	Arsenic	2.0	U	W	F
7440-39-3	Barium	40.2	B		P
7440-41-7	Beryllium	2.8	B		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	18500	-		P
7440-47-3	Chromium	6.0	U		P
7440-48-4	Cobalt	22.4	B		P
7440-50-8	Copper	8.5	B		P
7439-89-6	Iron	1320			P
7439-92-1	Lead	1.5	B	W	F
7439-95-4	Magnesium	10800	-		P
7439-96-5	Manganese	1350	-		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	29.3	B		P
7440-09-7	Potassium	2510	B		P
7482-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	19700	U		P
7440-28-0	Thallium	1.0	U	WN	F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	74.3	U		P
	Cyanide	10.0	U		AS

Color Before: RED
Color After: COLORLESSClarity Before: CLEAR
Clarity After: CLEARTexture: _____
Artifacts: _____

Comments:

FORM I - IN

7/88

001244

AR302874

Safe Drinking Water Act Volatile Organics

Enseco
Environmental Services

Method 524.2

Client Name: Dames & Moore
 Client ID: OB-7
 Lab ID: 013072-0005-SA
 Matrix: AQUEOUS
 Authorized: 08 APR 91

Sampled: 03 APR 91
 Prepared: NA

Received: 06 APR 91
 Analyzed: 16 APR 91

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	0.29	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	0.11	ug/L	0.50

J

JB

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Martha Sullivan

Approved By: Khaja Eazazuddin

000010

AR302875

Safe Drinking Water Act Volatile Organics (CONT.)

Enseco
Environmental Services

Method 524.2

Client Name: Dames & Moore
 Client ID: OB-7
 Lab ID: 013072-0005-SA
 Matrix: AQUEOUS
 Authorized: 08 APR 91

Sampled: 03 APR 91
 Prepared: NA

Received: 06 APR 91
 Analyzed: 16 APR 91

Parameter	Result	Units	Reporting Limit
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	1.8	ug/L	0.50
Toluene	0.080	ug/L	0.50 J
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	0.14	ug/L	0.50 JB
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	7.3	ug/L	0.50
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50
Surrogate	Recovery		
4-Bromofluorobenzene	96	%	--

Note J : Result is detected below the reporting limit or is an estimated concentration.

Note B : Compound is also detected in the blank.

ND = Not detected

NA = Not applicable

Reported By: Martha Sullivan

Approved By: Khaja Fazazuddin
 AR302876 000011

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OB-7

Lab Name: ENSECO-EAST

Contract: _____

Lab Code: FEAST

Case No.: 13072

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13072-0005

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: G0877

Level: (low/med) LOW

Date Received: 04/06/91

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/09/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
---------	----------	---	------	---

108-95-2-----	Phenol		10	U
111-44-4-----	bis(2-Chloroethyl) Ether		10	U
95-57-8-----	2-Chlorophenol		10	U
541-73-1-----	1,3-Dichlorobenzene		10	U
106-46-7-----	1,4-Dichlorobenzene		10	U
100-51-6-----	Benzyl Alcohol		10	U
95-50-1-----	1,2-Dichlorobenzene		10	U
95-48-7-----	2-Methylphenol		10	U
39638-32-9-----	bis(2-Chloroisopropyl) Ether		10	U
106-44-5-----	4-Methylphenol		10	U
621-64-7-----	N-Nitroso-Di-n-Propylamine		10	U
67-72-1-----	Hexachloroethane		10	U
98-95-3-----	Nitrobenzene		10	U
78-59-1-----	Isophorone		10	U
88-75-5-----	2-Nitrophenol		10	U
105-67-9-----	2,4-Dimethylphenol		10	U
65-85-0-----	Benzoic Acid		50	U
111-91-1-----	bis(2-Chloroethoxy) Methane		10	U
120-83-2-----	2,4-Dichlorophenol		10	U
120-82-1-----	1,2,4-Trichlorobenzene		10	U
91-20-3-----	Naphthalene		10	U
106-47-8-----	4-Chloroaniline		10	U
87-68-3-----	Hexachlorobutadiene		10	U
59-50-7-----	4-Chloro-3-Methylphenol		10	U
91-57-6-----	2-Methylnaphthalene		10	U
77-47-4-----	Hexachlorocyclopentadiene		10	U
88-06-2-----	2,4,6-Trichlorophenol		10	U
95-95-4-----	2,4,5-Trichlorophenol		50	U
91-58-7-----	2-Chloronaphthalene		10	U
88-74-4-----	2-Nitroaniline		50	U
131-11-3-----	Dimethyl Phthalate		10	U
208-96-8-----	Acenaphthylene		10	U
606-20-2-----	2,6-Dinitrotoluene		10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: <u>ENSECO-EAST</u>	Contract: _____	OB-7	
Lab Code: <u>EEAST</u>	Case No.: <u>13072</u>	SAS No.: _____	SDG No.: _____
Matrix: (soil/water) <u>WATER</u>	Lab Sample ID: <u>13072-0005</u>		
Sample wt/vol: <u>1000</u> (g/mL) <u>ML</u>	Lab File ID: <u>G0877</u>		
Level: (low/med) <u>LOW</u>	Date Received: <u>04/06/91</u>		
% Moisture: not dec. _____ dec. _____	Date Extracted: <u>04/10/91</u>		
Extraction: (SepF/Cont/Sonc) <u>SEPF</u>	Date Analyzed: <u>05/09/91</u>		
GPC Cleanup: (Y/N) <u>N</u>	pH: <u>7.0</u>	Dilution Factor: <u>1.0</u>	

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
---------	----------	---	---

99-09-2-----	3-Nitroaniline	50	U
83-32-9-----	Acenaphthene	10	U
51-28-5-----	2,4-Dinitrophenol	50	U
100-02-7-----	4-Nitrophenol	50	U
132-64-9-----	Dibenzofuran	10	U
121-14-2-----	2,4-Dinitrotoluene	10	U
84-66-2-----	Diethylphthalate	10	U
7005-72-3-----	4-Chlorophenyl-phenylether	10	U
86-73-7-----	Fluorene	10	U
100-10-6-----	4-Nitroaniline	50	U
534-52-1-----	4,6-Dinitro-2-Methylphenol	50	U
86-30-6-----	N-Nitrosodiphenylamine (1)	10	U
101-55-3-----	4-Bromophenyl-phenylether	10	U
118-74-1-----	Hexachlorobenzene	10	U
87-86-5-----	Pentachlorophenol	50	U
85-01-8-----	Phenanthrene	10	U
120-12-7-----	Anthracene	10	U
84-74-2-----	Di-n-Butylphthalate	10	U
206-44-0-----	Fluoranthene	10	U
129-00-0-----	Pyrene	10	U
85-68-7-----	Butylbenzylphthalate	10	U
91-94-1-----	3,3'-Dichlorobenzidine	20	U
56-55-3-----	Benzo(a)Anthracene	10	U
218-01-9-----	Chrysene	10	U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	1	J
117-84-0-----	Di-n-Octyl Phthalate	10	U
205-99-2-----	Benzo(b)Fluoranthene	10	U
207-08-9-----	Benzo(k)Fluoranthene	10	U
50-32-8-----	Benzo(a)Pyrene	10	U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3-----	Dibenz(a,h)Anthracene	10	U
191-24-2-----	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____1445204Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATERLab Sample ID: OB-7Level (low/med): LOWDate Received: 04/06/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	26.0	U		P
7440-36-0	Antimony	16.0	U		P
7440-38-2	Arsenic	2.0	U	W	F
7440-39-3	Barium	27.8	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	17300			P
7440-47-3	Chromium	6.0	U		P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	11.7	B		P
7439-89-6	Iron	20.0	U		P
7439-92-1	Lead	1.0	U	W	F
7439-95-4	Magnesium	5310			P
7439-96-5	Manganese	128		N	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	7.0	U		P
7440-09-7	Potassium	3510	B		P
7482-49-2	Selenium	2.1	B	WN	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	7860	*		P
7440-28-0	Thallium	1.0	U	W	F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	48.2			P
	Cyanide				NR

Color Before: COLORLESS
Color After: COLORLESSClarity Before: CLEAR
Clarity After: CLEARTexture: _____
Artifacts: _____

Comments:

0000005

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

1444503

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATER Lab Sample ID: OB-7Level (low/med): LOW Date Received: 04/06/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7730	-		P
7440-36-0	Antimony	16.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	97.9	B		P
7440-41-7	Beryllium	1.2	B		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	18000	-		P
7440-47-3	Chromium	15.3	-		P
7440-48-4	Cobalt	13.2	B		P
7440-50-8	Copper	19.2	B		P
7439-89-6	Iron	12200	-		P
7439-92-1	Lead	14.0	-	S	F
7439-95-4	Magnesium	7360	-		P
7439-96-5	Manganese	556	-		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	21.2	B		P
7440-09-7	Potassium	4490	B		P
7482-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	8940	-		P
7440-28-0	Thallium	1.0	U	N	F
7440-62-2	Vanadium	12.0	B		P
7440-66-6	Zinc	98.4	-		P
	Cyanide	10.0	U		AS

Color Before: RED
Color After: COLORLESSClarity Before: CLOUDY
Clarity After: CLEARTexture: _____
Artifacts: _____

Comments:

FORM I - IN

7/88

001239

AR302880

Safe Drinking Water Act Volatile Organics

Enseco
Analytical Services

Method 524.2

Client Name: Dames & Moore
 Client ID: OB-8
 Lab ID: 013072-0009-SA
 Matrix: AQUEOUS
 Authorized: 08 APR 91

Sampled: 04 APR 91
 Prepared: NA

Received: 06 APR 91
 Analyzed: 16 APR 91

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	0.080	ug/L	0.50 J
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	3.1	ug/L	0.50
1,2-Dichloroethane	3.5	ug/L	0.50
1,1-Dichloroethene	0.30	ug/L	0.50 J
cis-1,2-Dichloroethene	120	ug/L	10 D
trans-1,2-Dichloroethene	0.22	ug/L	0.50 J
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	1.2	ug/L	0.50 B

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Martha Sullivan

Approved By: Khaja Eazazuddin
AR302881

000018

Safe Drinking Water Act Volatile Organics (CONT.)

Enseco
Analytical Services

Method 524.2

Client Name: Dames & Moore
 Client ID: 08-8
 Lab ID: 013072-0009-SA
 Matrix: AQUEOUS
 Authorized: 08 APR 91

Sampled: 04 APR 91
 Prepared: NA

Received: 06 APR 91
 Analyzed: 16 APR 91

Parameter	Result	Units	Reporting Limit
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	0.23	ug/L	0.50 J
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	2.9	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	1200	ug/L	25 D
Trichlorofluoromethane	0.060	ug/L	0.50 J
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50
<hr/>			
Surrogate	Recovery		
4-Bromofluorobenzene	102	%	--

Note J : Result is detected below the reporting limit or is an estimated concentration.

Note D : Compound quantitated using a secondary dilution.

Note B : Compound is also detected in the blank.

ND = Not detected

NA = Not applicable

Reported By: Martha Sullivan

Approved By: Khaja Eazazuddin.

000019

AR302882

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OB-8

Lab Name: ENSECO-EAST

Contract: _____

Lab Code: EEAST

Case No.: 13072

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13072-0009

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: G0890

Level: (low/med) LOW

Date Received: 04/06/91

% Moisture: not dec. dec.

Date Extracted: 04/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/10/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
---------	----------	---	---

108-95-2-----	Phenol	10	U
111-44-4-----	bis(2-Chloroethyl) Ether	10	U
95-57-8-----	2-Chlorophenol	10	U
541-73-1-----	1,3-Dichlorobenzene	10	U
106-46-7-----	1,4-Dichlorobenzene	10	U
100-51-6-----	Benzyl Alcohol	10	U
95-50-1-----	1,2-Dichlorobenzene	10	U
95-48-7-----	2-Methylphenol	10	U
39638-32-9-----	bis(2-Chloroisopropyl) Ether	10	U
106-44-5-----	4-Methylphenol	10	U
621-64-7-----	N-Nitroso-Di-n-Propylamine	10	U
67-72-1-----	Hexachloroethane	10	U
98-95-3-----	Nitrobenzene	10	U
78-59-1-----	Isophorone	10	U
88-75-5-----	2-Nitrophenol	10	U
105-67-9-----	2,4-Dimethylphenol	10	U
65-85-0-----	Benzoic Acid	50	U
111-91-1-----	bis(2-Chloroethoxy) Methane	10	U
120-83-2-----	2,4-Dichlorophenol	10	U
120-82-1-----	1,2,4-Trichlorobenzene	10	U
91-20-3-----	Naphthalene	10	U
106-47-8-----	4-Chloroaniline	10	U
87-68-3-----	Hexachlorobutadiene	10	U
59-50-7-----	4-Chloro-3-Methylphenol	10	U
91-57-6-----	2-Methylnaphthalene	10	U
77-47-4-----	Hexachlorocyclopentadiene	10	U
88-06-2-----	2,4,6-Trichlorophenol	10	U
95-95-4-----	2,4,5-Trichlorophenol	50	U
91-58-7-----	2-Chloronaphthalene	10	U
88-74-4-----	2-Nitroaniline	50	U
131-11-3-----	Dimethyl Phthalate	10	U
208-96-8-----	Acenaphthylene	10	U
606-20-2-----	2,6-Dinitrotoluene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ENSECO-EAST

Contract: _____

OB-8

Lab Code: EEAST Case No.: 13072

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13072-0009

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: G0890

Level: (low/med) LOW

Date Received: 04/06/91

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/10/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

Q

99-09-2-----	3-Nitroaniline	50	U
83-32-9-----	Acenaphthene	10	U
51-28-5-----	2,4-Dinitrophenol	50	U
100-02-7-----	4-Nitrophenol	50	U
132-64-9-----	Dibenzofuran	10	U
121-14-2-----	2,4-Dinitrotoluene	10	U
84-66-2-----	Diethylphthalate	10	U
7005-72-3-----	4-Chlorophenyl-phenylether	10	U
86-73-7-----	Fluorene	10	U
100-10-6-----	4-Nitroaniline	50	U
534-52-1-----	4,6-Dinitro-2-Methylphenol	50	U
86-30-6-----	N-Nitrosodiphenylamine (1)	10	U
101-55-3-----	4-Bromophenyl-phenylether	10	U
118-74-1-----	Hexachlorobenzene	10	U
87-86-5-----	Pentachlorophenol	50	U
85-01-8-----	Phenanthrene	10	U
120-12-7-----	Anthracene	10	U
84-74-2-----	Di-n-Butylphthalate	10	U
206-44-0-----	Fluoranthene	10	U
129-00-0-----	Pyrene	10	U
85-68-7-----	Butylbenzylphthalate	10	U
91-94-1-----	3,3'-Dichlorobenzidine	20	U
56-55-3-----	Benzo(a)Anthracene	10	U
218-01-9-----	Chrysene	10	U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	2	J
117-84-0-----	Di-n-Octyl Phthalate	10	U
205-99-2-----	Benzo(b)Fluoranthene	10	U
207-08-9-----	Benzo(k)Fluoranthene	10	U
50-32-8-----	Benzo(a)Pyrene	10	U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3-----	Dibenz(a,h)Anthracene	10	U
191-24-2-----	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

0000010

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____

1445208

Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATER Lab Sample ID: OB-8Level (low/med): LOW Date Received: 04/06/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	26.0	U		P
7440-36-0	Antimony	16.0	B		P
7440-38-2	Arsenic	2.0	U	W	F
7440-39-3	Barium	73.3	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	11500			P
7440-47-3	Chromium	6.0	U		P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	17.5	B		P
7439-89-6	Iron	20.0	U		P
7439-92-1	Lead	1.0	U	W	F
7439-95-4	Magnesium	10100	-		P
7439-96-5	Manganese	32.1		N	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	9.3	B		P
7440-09-7	Potassium	5590			P
7482-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	25600		*	P
7440-28-0	Thallium	1.0	U	W	F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	46.1			P
	Cyanide				NR

Color Before: COLORLESS
Color After: COLORLESSClarity Before: CLEAR
Clarity After: CLEARTexture: _____
Artifacts: _____

Comments:

FORM I - IN

7/88

AR302885

001396

0000109

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

1444507

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATER Lab Sample ID: QB-8Level (low/med): LOW Date Received: 04/06/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1520	-		P
7440-36-0	Antimony	16.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	95.7	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	11900	U		P
7440-47-3	Chromium	6.0	U		P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	6.8	B		P
7439-89-6	Iron	2110	-		P
7439-92-1	Lead	2.7	B		F
7439-95-4	Magnesium	11400	-		P
7439-96-5	Manganese	128			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	18.2	B		P
7440-09-7	Potassium	3700	B		P
7482-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	30100	U		P
7440-28-0	Thallium	1.0	U	WN	F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	19.3	B		P
	Cyanide	10.0	U		AS

Color Before: RED
Color After: COLORLESSClarity Before: CLEAR
Clarity After: CLEARTexture:
Artifacts: _____

Comments:

FORM I - IN

7/88

001243

AR302886

Safe Drinking Water Act Volatile Organics

Enseco
Analytical Laboratory

Method 524.2

Client Name: Dames & Moore
 Client ID: BR-1
 Lab ID: 013072-0012-SA
 Matrix: AQUEOUS
 Authorized: 08 APR 91

Sampled: 04 APR 91
 Prepared: NA

Received: 06 APR 91
 Analyzed: 16 APR 91

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	0.54	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	ND	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	0.17	ug/L	0.50

JB

(continued on following page)

ND = Not detected

NA = Not applicable

000022

Reported By: Martha Sullivan

Approved By: Khaja Eazazuddin
AR302887

Method 524.2

Client Name: Dames & Moore
 Client ID: BR-1
 Lab ID: 013072-0012-SA
 Matrix: AQUEOUS
 Authorized: 08 APR 91

Sampled: 04 APR 91
 Prepared: NA

Received: 06 APR 91
 Analyzed: 16 APR 91

Parameter	Result	Units	Reporting Limit
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	ND	ug/L	0.50
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	ND	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	0.80	ug/L	0.50
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50
Surrogate	Recovery		
4-Bromofluorobenzene	94	%	--

Note J : Result is detected below the reporting limit or is an estimated concentration.

Note B : Compound is also detected in the blank.

ND = Not detected

NA = Not applicable

Reported By: Martha Sullivan

Approved By: Khaja Eazazuddin

000023

AR302888

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ENSECO-EAST

Contract: _____

BR-1

Lab Code: FEAST Case No.: 13072

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13072-0012

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: G0892

Level: (low/med) LOW

Date Received: 04/06/91

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/10/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

<u>108-95-2-----Phenol</u>	<u>10</u>	<u>U</u>
<u>111-44-4-----bis(2-Chloroethyl) Ether</u>	<u>10</u>	<u>U</u>
<u>95-57-8-----2-Chlorophenol</u>	<u>10</u>	<u>U</u>
<u>541-73-1-----1,3-Dichlorobenzene</u>	<u>10</u>	<u>U</u>
<u>106-46-7-----1,4-Dichlorobenzene</u>	<u>10</u>	<u>U</u>
<u>100-51-6-----Benzyl Alcohol</u>	<u>10</u>	<u>U</u>
<u>95-50-1-----1,2-Dichlorobenzene</u>	<u>10</u>	<u>U</u>
<u>95-48-7-----2-Methylphenol</u>	<u>10</u>	<u>U</u>
<u>39638-32-9-----bis(2-Chloroisopropyl) Ether</u>	<u>10</u>	<u>U</u>
<u>106-44-5-----4-Methylphenol</u>	<u>10</u>	<u>U</u>
<u>621-64-7-----N-Nitroso-Di-n-Propylamine</u>	<u>10</u>	<u>U</u>
<u>67-72-1-----Hexachloroethane</u>	<u>10</u>	<u>U</u>
<u>98-95-3-----Nitrobenzene</u>	<u>10</u>	<u>U</u>
<u>78-59-1-----Isophorone</u>	<u>10</u>	<u>U</u>
<u>88-75-5-----2-Nitrophenol</u>	<u>10</u>	<u>U</u>
<u>105-67-9-----2,4-Dimethylphenol</u>	<u>10</u>	<u>U</u>
<u>65-85-0-----Benzoic Acid</u>	<u>50</u>	<u>U</u>
<u>111-91-1-----bis(2-Chloroethoxy) Methane</u>	<u>10</u>	<u>U</u>
<u>120-83-2-----2,4-Dichlorophenol</u>	<u>10</u>	<u>U</u>
<u>120-82-1-----1,2,4-Trichlorobenzene</u>	<u>10</u>	<u>U</u>
<u>91-20-3-----Naphthalene</u>	<u>10</u>	<u>U</u>
<u>106-47-8-----4-Chloroaniline</u>	<u>10</u>	<u>U</u>
<u>87-68-3-----Hexachlorobutadiene</u>	<u>10</u>	<u>U</u>
<u>59-50-7-----4-Chloro-3-Methylphenol</u>	<u>10</u>	<u>U</u>
<u>91-57-6-----2-Methylnaphthalene</u>	<u>10</u>	<u>U</u>
<u>77-47-4-----Hexachlorocyclopentadiene</u>	<u>10</u>	<u>U</u>
<u>88-06-2-----2,4,6-Trichlorophenol</u>	<u>10</u>	<u>U</u>
<u>95-95-4-----2,4,5-Trichlorophenol</u>	<u>50</u>	<u>U</u>
<u>91-58-7-----2-Chloronaphthalene</u>	<u>10</u>	<u>U</u>
<u>88-74-4-----2-Nitroaniline</u>	<u>50</u>	<u>U</u>
<u>131-11-3-----Dimethyl Phthalate</u>	<u>10</u>	<u>U</u>
<u>208-96-8-----Acenaphthylene</u>	<u>10</u>	<u>U</u>
<u>606-20-2-----2,6-Dinitrotoluene</u>	<u>10</u>	<u>U</u>

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: <u>ENSECO-EAST</u>	Contract: _____	BR-1
Lab Code: <u>EEAST</u>	Case No.: <u>13072</u>	SAS No.: _____ SDG No.: _____
Matrix: (soil/water) <u>WATER</u>	Lab Sample ID: <u>13072-0012</u>	
Sample wt/vol: <u>1000</u> (g/mL) <u>ML</u>	Lab File ID: <u>G0892</u>	
Level: (low/med) <u>LOW</u>	Date Received: <u>04/06/91</u>	
% Moisture: not dec. _____ dec. _____	Date Extracted: <u>04/10/91</u>	
Extraction: (SepF/Cont/Sonc) <u>SEPF</u>	Date Analyzed: <u>05/10/91</u>	
GPC Cleanup: (Y/N) <u>N</u>	pH: <u>7.0</u>	Dilution Factor: <u>1.0</u>

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) <u>UG/L</u>	Q
---------	----------	-----------------------------	---

99-09-2-----	3-Nitroaniline	50	U
83-32-9-----	Acenaphthene	10	U
51-28-5-----	2,4-Dinitrophenol	50	U
100-02-7-----	4-Nitrophenol	50	U
132-64-9-----	Dibenzofuran	10	U
121-14-2-----	2,4-Dinitrotoluene	10	U
84-66-2-----	Diethylphthalate	10	U
7005-72-3-----	4-Chlorophenyl-phenylether	10	U
86-73-7-----	Fluorene	10	U
100-10-6-----	4-Nitroaniline	50	U
534-52-1-----	4,6-Dinitro-2-Methylphenol	50	U
86-30-6-----	N-Nitrosodiphenylamine (1)	10	U
101-55-3-----	4-Bromophenyl-phenylether	10	U
118-74-1-----	Hexachlorobenzene	10	U
87-86-5-----	Pentachlorophenol	50	U
85-01-8-----	Phenanthrene	10	U
120-12-7-----	Anthracene	10	U
84-74-2-----	Di-n-Butylphthalate	10	U
206-44-0-----	Fluoranthene	10	U
129-00-0-----	Pyrene	10	U
85-68-7-----	Butylbenzylphthalate	10	U
91-94-1-----	3,3'-Dichlorobenzidine	20	U
56-55-3-----	Benzo(a)Anthracene	10	U
218-01-9-----	Chrysene	10	U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0-----	Di-n-Octyl Phthalate	10	U
205-99-2-----	Benzo(b)Fluoranthene	10	U
207-08-9-----	Benzo(k)Fluoranthene	10	U
50-32-8-----	Benzo(a)Pyrene	10	U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3-----	Dibenz(a,h)Anthracene	10	U
191-24-2-----	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____1445210Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATER Lab Sample ID: BR-1Level (low/med): LOW Date Received: 04/06/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	26.0	U		P
7440-36-0	Antimony	16.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	188	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	12700			P
7440-47-3	Chromium	6.0	U		P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	12.9	B		P
7439-89-6	Iron	2840			P
7439-92-1	Lead	1.0	U		F
7439-95-4	Magnesium	9480			P
7439-96-5	Manganese	209		N	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	10.7	B		P
7440-09-7	Potassium	4930	B		P
7482-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	12700		*	P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	66.7			P
	Cyanide				NR

Color Before: COLORLESS
Color After: COLORLESSClarity Before: CLEAR
Clarity After: CLEARTexture: _____
Artifacts: _____

Comments:

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

1444510

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATER Lab Sample ID: BR-1Level (low/med): LOW Date Received: 04/06/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2290	-		P
7440-36-0	Antimony	16.0	U		P
7440-38-2	Arsenic	2.1	B		F
7440-39-3	Barium	273	B		P
7440-41-7	Beryllium	1.2	B		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	13600	U		P
7440-47-3	Chromium	6.7	B		P
7440-48-4	Cobalt	6.7	B		P
7440-50-8	Copper	10.3	B		P
7439-89-6	Iron	31400	B		P
7439-92-1	Lead	2.8	B		F
7439-95-4	Magnesium	11300	-		P
7439-96-5	Manganese	458			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	19.7	B		P
7440-09-7	Potassium	5080	B		P
7482-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	12300	U		P
7440-28-0	Thallium	1.0	U	WN	F
7440-62-2	Vanadium	8.0	B		P
7440-66-6	Zinc	51.8	U		P
	Cyanide	10.0	U		AS

Color Before: RED
Color After: COLORLESSClarity Before: CLOUDY
Clarity After: CLEARTexture: _____
Artifacts: _____

Comments:

001246

AR302892

Safe Drinking Water Act Volatile Organics

Enseco
A Climing Company

Method 524.2

Client Name: Dames & Moore
 Client ID: BR-2
 Lab ID: 013072-0013-SA
 Matrix: AQUEOUS
 Authorized: 08 APR 91

Sampled: 04 APR 91
 Prepared: NA

Received: 06 APR 91
 Analyzed: 16 APR 91

Parameter	Result	Units	Reporting Limit	
Benzene	0.16	ug/L	0.50	J
Bromobenzene	ND	ug/L	0.50	
Bromochloromethane	ND	ug/L	0.50	
Bromodichloromethane	ND	ug/L	0.50	
Bromoform	ND	ug/L	0.50	
Bromomethane	ND	ug/L	0.50	
n-Butylbenzene	ND	ug/L	0.50	
sec-Butylbenzene	ND	ug/L	0.50	
tert-Butylbenzene	ND	ug/L	0.50	
Carbon tetrachloride	ND	ug/L	0.50	
Chlorobenzene	ND	ug/L	0.50	
Chloroethane	ND	ug/L	0.50	
Chloroform	0.15	ug/L	0.50	J
Chloromethane	ND	ug/L	0.50	
2-Chlorotoluene	ND	ug/L	0.50	
4-Chlorotoluene	ND	ug/L	0.50	
Dibromochloromethane	ND	ug/L	0.50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	
Dibromomethane	ND	ug/L	0.50	
1,2-Dichlorobenzene	ND	ug/L	0.50	
1,3-Dichlorobenzene	ND	ug/L	0.50	
1,4-Dichlorobenzene	ND	ug/L	0.50	
Dichlorodifluoromethane	ND	ug/L	0.50	
1,1-Dichloroethane	ND	ug/L	0.50	
1,2-Dichloroethane	ND	ug/L	0.50	
1,1-Dichloroethene	1.3	ug/L	0.50	
cis-1,2-Dichloroethene	270	ug/L	50	D
trans-1,2-Dichloroethene	0.24	ug/L	0.50	J
1,2-Dichloropropane	ND	ug/L	0.50	
1,3-Dichloropropane	ND	ug/L	0.50	
2,2-Dichloropropane	ND	ug/L	0.50	
1,1-Dichloropropene	ND	ug/L	0.50	
cis-1,3-Dichloropropene	ND	ug/L	0.50	
trans-1,3-Dichloropropene	ND	ug/L	0.50	
Ethylbenzene	ND	ug/L	0.50	
Hexachlorobutadiene	ND	ug/L	0.50	
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50	
Methylene chloride	0.15	ug/L	0.50	JB

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Martha Sullivan

Approved By: Khaja Eazazuddin
AR302893

000024

Safe Drinking Water Act Volatile Organics (CONT.)

Enseco
Your quality source.

Method 524.2

Client Name: Dames & Moore
 Client ID: BR-2
 Lab ID: 013072-0013-SA
 Matrix: AQUEOUS
 Authorized: 08 APR 91

Sampled: 04 APR 91
 Prepared: NA

Received: 06 APR 91
 Analyzed: 16 APR 91

Parameter	Result	Units	Reporting Limit
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	ND	ug/L	0.50
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	0.39	ug/L	0.50 J
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	1600	ug/L	50 D
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	2.2	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50
Surrogate	Recovery		
4-Bromofluorobenzene	99	%	--

Note J : Result is detected below the reporting limit or is an estimated concentration.

Note D : Compound quantitated using a secondary dilution.

Note B : Compound is also detected in the blank.

ND = Not detected

NA = Not applicable

Reported By: Martha Sullivan

Approved By: Khaja Eazazuddin

000025

AR302894

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ENSECO-EAST

Contract: _____

BR-2

Lab Code: E EAST Case No.: 13072

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13072-0013

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: G0893

Level: (low/med) LOW

Date Received: 04/06/91

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/10/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) <u>UG/L</u>	Q
108-95-2-----	Phenol	10	U
111-44-4-----	bis(2-Chloroethyl)Ether	10	U
95-57-8-----	2-Chlorophenol	10	U
541-73-1-----	1,3-Dichlorobenzene	10	U
106-46-7-----	1,4-Dichlorobenzene	10	U
100-51-6-----	Benzyl Alcohol	10	U
95-50-1-----	1,2-Dichlorobenzene	10	U
95-48-7-----	2-Methylphenol	10	U
39638-32-9-----	bis(2-Chloroisopropyl)Ether	10	U
106-44-5-----	4-Methylphenol	10	U
621-64-7-----	N-Nitroso-Di-n-Propylamine	10	U
67-72-1-----	Hexachloroethane	10	U
98-95-3-----	Nitrobenzene	10	U
78-59-1-----	Isophorone	10	U
88-75-5-----	2-Nitrophenol	10	U
105-67-9-----	2,4-Dimethylphenol	10	U
65-85-0-----	Benzoic Acid	50	U
111-91-1-----	bis(2-Chloroethoxy)Methane	10	U
120-83-2-----	2,4-Dichlorophenol	10	U
120-82-1-----	1,2,4-Trichlorobenzene	10	U
91-20-3-----	Naphthalene	10	U
106-47-8-----	4-Chloroaniline	10	U
87-68-3-----	Hexachlorobutadiene	10	U
59-50-7-----	4-Chloro-3-Methylphenol	10	U
91-57-6-----	2-Methylnaphthalene	10	U
77-47-4-----	Hexachlorocyclopentadiene	10	U
88-06-2-----	2,4,6-Trichlorophenol	10	U
95-95-4-----	2,4,5-Trichlorophenol	50	U
91-58-7-----	2-Chloronaphthalene	10	U
88-74-4-----	2-Nitroaniline	50	U
131-11-3-----	Dimethyl Phthalate	2	J
208-96-8-----	Acenaphthylene	10	U
606-20-2-----	2,6-Dinitrotoluene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ENSECO-EAST

Contract: _____

BR-2

Lab Code: EEAST Case No.: 13072

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13072-0013

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: G0893

Level: (low/med) LOW

Date Received: 04/06/91

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/10/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

Q

<u>99-09-2-----3-Nitroaniline</u>	<u>50</u>	<u>U</u>
<u>83-32-9-----Acenaphthene</u>	<u>10</u>	<u>U</u>
<u>51-28-5-----2,4-Dinitrophenol</u>	<u>50</u>	<u>U</u>
<u>100-02-7-----4-Nitrophenol</u>	<u>50</u>	<u>U</u>
<u>132-64-9-----Dibenzofuran</u>	<u>10</u>	<u>U</u>
<u>121-14-2-----2,4-Dinitrotoluene</u>	<u>10</u>	<u>U</u>
<u>84-66-2-----Diethylphthalate</u>	<u>10</u>	<u>U</u>
<u>7005-72-3-----4-Chlorophenyl-phenylether</u>	<u>10</u>	<u>U</u>
<u>86-73-7-----Fluorene</u>	<u>10</u>	<u>U</u>
<u>100-10-6-----4-Nitroaniline</u>	<u>50</u>	<u>U</u>
<u>534-52-1-----4,6-Dinitro-2-Methylphenol</u>	<u>50</u>	<u>U</u>
<u>86-30-6-----N-Nitrosodiphenylamine (1)</u>	<u>10</u>	<u>U</u>
<u>101-55-3-----4-Bromophenyl-phenylether</u>	<u>10</u>	<u>U</u>
<u>118-74-1-----Hexachlorobenzene</u>	<u>10</u>	<u>U</u>
<u>87-86-5-----Pentachlorophenol</u>	<u>50</u>	<u>U</u>
<u>85-01-8-----Phenanthrene</u>	<u>10</u>	<u>U</u>
<u>120-12-7-----Anthracene</u>	<u>10</u>	<u>U</u>
<u>84-74-2-----Di-n-Butylphthalate</u>	<u>10</u>	<u>U</u>
<u>206-44-0-----Fluoranthene</u>	<u>10</u>	<u>U</u>
<u>129-00-0-----Pyrene</u>	<u>10</u>	<u>U</u>
<u>85-68-7-----Butylbenzylphthalate</u>	<u>10</u>	<u>U</u>
<u>91-94-1-----3,3'-Dichlorobenzidine</u>	<u>20</u>	<u>U</u>
<u>56-55-3-----Benzo(a)Anthracene</u>	<u>10</u>	<u>U</u>
<u>218-01-9-----Chrysene</u>	<u>10</u>	<u>U</u>
<u>117-81-7-----bis(2-Ethylhexyl)Phthalate</u>	<u>10</u>	<u>U</u>
<u>117-84-0-----Di-n-Octyl Phthalate</u>	<u>10</u>	<u>U</u>
<u>205-99-2-----Benzo(b)Fluoranthene</u>	<u>10</u>	<u>U</u>
<u>207-08-9-----Benzo(k)Fluoranthene</u>	<u>10</u>	<u>U</u>
<u>50-32-8-----Benzo(a)Pyrene</u>	<u>10</u>	<u>U</u>
<u>193-39-5-----Indeno(1,2,3-cd)Pyrene</u>	<u>10</u>	<u>U</u>
<u>53-70-3-----Dibenz(a,h)Anthracene</u>	<u>10</u>	<u>U</u>
<u>191-24-2-----Benzo(g,h,i)Perylene</u>	<u>10</u>	<u>U</u>

(1) - Cannot be separated from Diphenylamine

0000013

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

1445211

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATER Lab Sample ID: BR-2Level (low/med): LOW Date Received: 04/06/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	26.0	U		P
7440-36-0	Antimony	16.0	U		P
7440-38-2	Arsenic	2.0	U	W	F
7440-39-3	Barium	203	U		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	10900	U		P
7440-47-3	Chromium	6.0	U		P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	18300	U		P
7439-92-1	Lead	1.0	U	W	F
7439-95-4	Magnesium	7410	U		P
7439-96-5	Manganese	279	-	N	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	7.0	U		P
7440-09-7	Potassium	4180	B		P
7482-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	11300	*		P
7440-28-0	Thallium	1.0	U	W	F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	41.9	-		NR
	Cyanide		-		

Color Before: COLORLESS
Color After: COLORLESSClarity Before: CLEAR
Clarity After: CLEARTexture: _____
Artifacts: _____

Comments:

0000013

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

1444511Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATERLab Sample ID: BR-2Level (low/med): LOWDate Received: 04/06/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	170	B		P
7440-36-0	Antimony	16.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	232	U		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	11200	U		P
7440-47-3	Chromium	6.0	U		P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	10.8	B		P
7439-89-6	Iron	41100			P
7439-92-1	Lead	2.6	B	W	F
7439-95-4	Magnesium	7610			P
7439-96-5	Manganese	303			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	7.0	U		
7440-09-7	Potassium	3030	B		
7482-49-2	Selenium	2.0	U	WN	
7440-22-4	Silver	3.0	U		
7440-23-5	Sodium	11700			
7440-28-0	Thallium	1.0	U	WN	F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	26.8			P
	Cyanide	10.0	U		AS

Color Before: YELLOW
Color After: COLORLESSClarity Before: CLEAR
Clarity After: CLEARTexture: _____
Artifacts: _____

Comments:

FORM I - IN

7/88

AR302898

001247

Method 524.2

Client Name: Dames & Moore
 Client ID: BR-3
 Lab ID: 013072-0014-SA
 Matrix: AQUEOUS
 Authorized: 08 APR 91

Sampled: 05 APR 91
 Prepared: NA

Received: 06 APR 91
 Analyzed: 16 APR 91

Parameter	Result	Units	Reporting Limit
Benzene	0.13	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	0.18	ug/L	0.50
Chloroform	0.21	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	0.050	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	0.14	ug/L	0.50
1,1-Dichloroethane	2.0	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	2.3	ug/L	0.50
cis-1,2-Dichloroethene	570	ug/L	12
trans-1,2-Dichloroethene	0.81	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	ND	ug/L	0.50

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Martha Sullivan

Approved By: Khaja Eazazuddin
AR 302899

000026

Safe Drinking Water Act Volatile Organics (CONT.)

Enseco
Analytical Services

Method 524.2

Client Name: Dames & Moore
 Client ID: BR-3
 Lab ID: 013072-0014-SA
 Matrix: AQUEOUS
 Authorized: 08 APR 91

Sampled: 05 APR 91
 Prepared: NA

Received: 06 APR 91
 Analyzed: 16 APR 91

Parameter	Result	Units	Reporting Limit
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	0.11	ug/L	J.5
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	1.2	ug/L	0.50
1,1,2-Trichloroethane	0.30	ug/L	0.50
Trichloroethene	1300	ug/L	50 J
Trichlorofluoromethane	ND	ug/L	0.50 D
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	1.4	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50
Surrogate			
Recovery			
4-Bromofluorobenzene	101	%	--

Note J : Result is detected below the reporting limit or is an estimated concentration.

Note D : Compound quantitated using a secondary dilution.

ND = Not detected

NA = Not applicable

Reported By: Martha Sullivan

Approved By: Khaja Eazazuddin

AR302900

000027

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ENSECO-EAST

Contract: _____

BR-3

Lab Code: EEAST Case No.: 13072

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13072-0014

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: G0894

Level: (low/med) LOW

Date Received: 04/06/91

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/10/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

108-95-2-----	Phenol	10	U
111-44-4-----	bis(2-Chloroethyl)Ether	10	U
95-57-8-----	2-Chlorophenol	10	U
541-73-1-----	1,3-Dichlorobenzene	10	U
106-46-7-----	1,4-Dichlorobenzene	10	U
100-51-6-----	Benzyl Alcohol	10	U
95-50-1-----	1,2-Dichlorobenzene	10	U
95-48-7-----	2-Methylphenol	10	U
39638-32-9-----	bis(2-Chloroisopropyl)Ether	10	U
106-44-5-----	4-Methylphenol	10	U
621-64-7-----	N-Nitroso-Di-n-Propylamine	10	U
67-72-1-----	Hexachloroethane	10	U
98-95-3-----	Nitrobenzene	10	U
78-59-1-----	Isophorone	10	U
88-75-5-----	2-Nitrophenol	10	U
105-67-9-----	2,4-Dimethylphenol	10	U
65-85-0-----	Benzoic Acid	50	U
111-91-1-----	bis(2-Chloroethoxy)Methane	10	U
120-83-2-----	2,4-Dichlorophenol	10	U
120-82-1-----	1,2,4-Trichlorobenzene	10	U
91-20-3-----	Naphthalene	10	U
106-47-8-----	4-Chloroaniline	10	U
87-68-3-----	Hexachlorobutadiene	10	U
59-50-7-----	4-Chloro-3-Methylphenol	10	U
91-57-6-----	2-Methylnaphthalene	10	U
77-47-4-----	Hexachlorocyclopentadiene	10	U
88-06-2-----	2,4,6-Trichlorophenol	10	U
95-95-4-----	2,4,5-Trichlorophenol	50	U
91-58-7-----	2-Chloronaphthalene	10	U
88-74-4-----	2-Nitroaniline	50	U
131-11-3-----	Dimethyl Phthalate	10	U
208-96-8-----	Acenaphthylene	10	U
606-20-2-----	2,6-Dinitrotoluene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BR-3

Lab Name: ENSECO-EAST

Contract: _____

Lab Code: EEAST Case No.: 13072

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13072-0014

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: G0894

Level: (low/med) LOW

Date Received: 04/06/91

% Moisture: not dec. dec. _____

Date Extracted: 04/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/10/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2-----	3-Nitroaniline	50	U
83-32-9-----	Acenaphthene	10	U
51-28-5-----	2,4-Dinitrophenol	50	U
100-02-7-----	4-Nitrophenol	50	U
132-64-9-----	Dibenzofuran	10	U
121-14-2-----	2,4-Dinitrotoluene	10	U
84-66-2-----	Diethylphthalate	10	U
7005-72-3-----	4-Chlorophenyl-phenylether	10	U
86-73-7-----	Fluorene	10	U
100-10-6-----	4-Nitroaniline	50	U
534-52-1-----	4,6-Dinitro-2-Methylphenol	50	U
86-30-6-----	N-Nitrosodiphenylamine (1)	10	U
101-55-3-----	4-Bromophenyl-phenylether	10	U
118-74-1-----	Hexachlorobenzene	10	U
87-86-5-----	Pentachlorophenol	50	U
85-01-8-----	Phanthrene	10	U
120-12-7-----	Anthracene	10	U
84-74-2-----	Di-n-Butylphthalate	10	U
206-44-0-----	Fluoranthene	10	U
129-00-0-----	Pyrene	10	U
85-68-7-----	Butylbenzylphthalate	10	U
91-94-1-----	3,3'-Dichlorobenzidine	20	U
56-55-3-----	Benzo(a)Anthracene	10	U
218-01-9-----	Chrysene	10	U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0-----	Di-n-Octyl Phthalate	10	U
205-99-2-----	Benzo(b)Fluoranthene	10	U
207-08-9-----	Benzo(k)Fluoranthene	10	U
50-32-8-----	Benzo(a)Pyrene	10	U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3-----	Dibenz(a,h)Anthracene	10	U
191-24-2-----	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

0000014

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____1445212Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATER Lab Sample ID: BR-3Level (low/med): LOW Date Received: 04/06/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	26.0	U		P
7440-36-0	Antimony	16.0	U		P
7440-38-2	Arsenic	2.0	U	W	F
7440-39-3	Barium	261			P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	13300			P
7440-47-3	Chromium	6.0	U		P
7440-48-4	Cobalt	4.6	B		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	25900			P
7439-92-1	Lead	1.0	U	W	F
7439-95-4	Magnesium	8950			P
7439-96-5	Manganese	558	-	N	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	10.2	B		P
7440-09-7	Potassium	3820	B		P
7482-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	13200		*	P
7440-28-0	Thallium	1.0	U	W	F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	30.2	-		P
	Cyanide		-		NR

Color Before: COLORLESS
Color After: COLORLESSClarity Before: CLEAR
Clarity After: CLEARTexture: _____
Artifacts: _____

Comments:

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____1444512Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATER Lab Sample ID: BR-3Level (low/med): LOW Date Received: 04/06/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	303	-		P
7440-36-0	Antimony	16.0	U		P
7440-38-2	Arsenic	2.4	B		F
7440-39-3	Barium	280			P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	13500			P
7440-47-3	Chromium	6.0	U		P
7440-48-4	Cobalt	8.3	B		P
7440-50-8	Copper	9.7	B		P
7439-89-6	Iron	36300			P
7439-92-1	Lead	1.0	U		F
7439-95-4	Magnesium	9010	-		P
7439-96-5	Manganese	597			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	11.6	B		P
7440-09-7	Potassium	3250	B		P
7482-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	13400			P
7440-28-0	Thallium	1.0	U	WN	F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	37.0			P
	Cyanide	10.0	U		AS

Color Before: YELLOW
Color After: COLORLESSClarity Before: CLEAR
Clarity After: CLEARTexture: _____
Artifacts: _____

Comments:

001248

AR302904

Safe Drinking Water Act Volatile Organics

Enseco
Environmental

Method 524.2

Client Name: Dames & Moore
 Client ID: BR-4
 Lab ID: 013072-0015-SA
 Matrix: AQUEOUS
 Authorized: 08 APR 91

Sampled: 05 APR 91
 Prepared: NA

Received: 06 APR 91
 Analyzed: 16 APR 91

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	0.16	ug/L	0.50 J
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	2.8	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	0.17	ug/L	0.50 JB

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Martha Sullivan

Approved By: Khaja A. R. 302905

AR 302905 000028

Safe Drinking Water Act Volatile Organics (CONT.)

Enseco
Analytical Services

Method 524.2

Client Name: Dames & Moore
 Client ID: BR-4
 Lab ID: 013072-0015-SA
 Matrix: AQUEOUS
 Authorized: 08 APR 91

Sampled: 05 APR 91
 Prepared: NA

Received: 06 APR 91
 Analyzed: 16 APR 91

Parameter	Result	Units	Reporting Limit
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	ND	ug/L	0.50
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	ND	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	30	ug/L	0.50
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50
Surrogate		Recovery	
4-Bromofluorobenzene	97	%	--

Note J : Result is detected below the reporting limit or is an estimated concentration.

Note B : Compound is also detected in the blank.

ND = Not detected

NA = Not applicable

Reported By: Martha Sullivan

Approved By: Khaja Eazazuddin

000029

AR302906

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ENSECO-EAST

Contract: _____

BR-4

Lab Code: EEAST Case No.: 13072

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13072-0015

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: G0924

Level: (low/med) LOW

Date Received: 04/06/91

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/12/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND	10	U
108-95-2-----	Phenol	10	U
111-44-4-----	bis(2-Chloroethyl) Ether	10	U
95-57-8-----	2-Chlorophenol	10	U
541-73-1-----	1,3-Dichlorobenzene	10	U
106-46-7-----	1,4-Dichlorobenzene	10	U
100-51-6-----	Benzyl Alcohol	10	U
95-50-1-----	1,2-Dichlorobenzene	10	U
95-48-7-----	2-Methylphenol	10	U
39638-32-9-----	bis(2-Chloroisopropyl) Ether	10	U
106-44-5-----	4-Methylphenol	10	U
621-64-7-----	N-Nitroso-Di-n-Propylamine	10	U
67-72-1-----	Hexachloroethane	10	U
98-95-3-----	Nitrobenzene	10	U
78-59-1-----	Isophorone	10	U
88-75-5-----	2-Nitrophenol	10	U
105-67-9-----	2,4-Dimethylphenol	10	U
65-85-0-----	Benzoic Acid	50	U
111-91-1-----	bis(2-Chloroethoxy) Methane	10	U
120-83-2-----	2,4-Dichlorophenol	10	U
120-82-1-----	1,2,4-Trichlorobenzene	10	U
91-20-3-----	Naphthalene	10	U
106-47-8-----	4-Chloroaniline	10	U
87-68-3-----	Hexachlorobutadiene	10	U
59-50-7-----	4-Chloro-3-Methylphenol	10	U
91-57-6-----	2-Methylnaphthalene	10	U
77-47-4-----	Hexachlorocyclopentadiene	10	U
88-06-2-----	2,4,6-Trichlorophenol	10	U
95-95-4-----	2,4,5-Trichlorophenol	50	U
91-58-7-----	2-Chloronaphthalene	10	U
88-74-4-----	2-Nitroaniline	50	U
131-11-3-----	Dimethyl Phthalate	10	U
208-96-8-----	Acenaphthylene	10	U
606-20-2-----	2,6-Dinitrotoluene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BR-4

Lab Name: ENSECO-EAST

Contract: _____

Lab Code: EEAST

Case No.: 13072

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13072-0015

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: G0924

Level: (low/med) LOW

Date Received: 04/06/91

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/12/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
---------	----------	---	------	---

99-09-2-----	3-Nitroaniline	50	U
83-32-9-----	Acenaphthene	10	U
51-28-5-----	2,4-Dinitrophenol	50	U
100-02-7-----	4-Nitrophenol	50	U
132-64-9-----	Dibenzofuran	10	U
121-14-2-----	2,4-Dinitrotoluene	10	U
84-66-2-----	Diethylphthalate	10	U
7005-72-3-----	4-Chlorophenyl-phenylether	10	U
86-73-7-----	Fluorene	10	U
100-10-6-----	4-Nitroaniline	50	U
534-52-1-----	4,6-Dinitro-2-Methylphenol	50	U
86-30-6-----	N-Nitrosodiphenylamine (1)	10	U
101-55-3-----	4-Bromophenyl-phenylether	10	U
118-74-1-----	Hexachlorobenzene	10	U
87-86-5-----	Pentachlorophenol	50	U
85-01-8-----	Phenanthrene	10	U
120-12-7-----	Anthracene	10	U
84-74-2-----	Di-n-Butylphthalate	10	U
206-44-0-----	Fluoranthene	10	U
129-00-0-----	Pyrene	10	U
85-68-7-----	Butylbenzylphthalate	10	U
91-94-1-----	3,3'-Dichlorobenzidine	20	U
56-55-3-----	Benzo(a)Anthracene	10	U
218-01-9-----	Chrysene	10	U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0-----	Di-n-Octyl Phthalate	10	U
205-99-2-----	Benzo(b)Fluoranthene	10	U
207-08-9-----	Benzo(k)Fluoranthene	10	U
50-32-8-----	Benzo(a)Pyrene	10	U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3-----	Dibenz(a,h)Anthracene	10	U
191-24-2-----	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ENSECO-EAST

Contract: _____

BR-4 RE

Lab Code: EEAST Case No.: 13072

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13072-0015RX

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: B1015

Level: (low/med) LOW

Date Received: 04/06/91

% Moisture: not dec. _____ dec. _____

Date Extracted: 05/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/14/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
---------	----------	----------------------	---

108-95-2-----	Phenol	10	U
111-44-4-----	bis(2-Chloroethyl)Ether	10	U
95-57-8-----	2-Chlorophenol	10	U
541-73-1-----	1,3-Dichlorobenzene	10	U
106-46-7-----	1,4-Dichlorobenzene	10	U
100-51-6-----	Benzyl Alcohol	10	U
95-50-1-----	1,2-Dichlorobenzene	10	U
95-48-7-----	2-Methylphenol	10	U
39638-32-9-----	bis(2-Chloroisopropyl)Ether	10	U
106-44-5-----	4-Methylphenol	10	U
621-64-7-----	N-Nitroso-Di-n-Propylamine	10	U
67-72-1-----	Hexachloroethane	10	U
98-95-3-----	Nitrobenzene	10	U
78-59-1-----	Isophorone	10	U
88-75-5-----	2-Nitrophenol	10	U
105-67-9-----	2,4-Dimethylphenol	10	U
65-85-0-----	Benzoic Acid	50	U
111-91-1-----	bis(2-Chloroethoxy)Methane	10	U
120-83-2-----	2,4-Dichlorophenol	10	U
120-82-1-----	1,2,4-Trichlorobenzene	10	U
91-20-3-----	Naphthalene	10	U
106-47-8-----	4-Chloroaniline	10	U
87-68-3-----	Hexachlorobutadiene	10	U
59-50-7-----	4-Chloro-3-Methylphenol	10	U
91-57-6-----	2-Methylnaphthalene	10	U
77-47-4-----	Hexachlorocyclopentadiene	10	U
88-06-2-----	2,4,6-Trichlorophenol	10	U
95-95-4-----	2,4,5-Trichlorophenol	50	U
91-58-7-----	2-Chloronaphthalene	10	U
88-74-4-----	2-Nitroaniline	50	U
131-11-3-----	Dimethyl Phthalate	10	U
208-96-8-----	Acenaphthylene	10	U
606-20-2-----	2,6-Dinitrotoluene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ENSECO-EAST

Contract: _____

BR-4 RE

Lab Code: EEAST Case No.: 13072 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13072-0015RX

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: B1015

Level: (low/med) LOW

Date Received: 04/06/91

% Moisture: not dec. _____ dec. _____

Date Extracted: 05/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/14/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
---------	----------	-----------------	------	---

99-09-2-----	3-Nitroaniline	50	U
83-32-9-----	Aceanaphthene	10	U
51-28-5-----	2,4-Dinitrophenol	50	U
100-02-7-----	4-Nitrophenol	50	U
132-64-9-----	Dibenzofuran	10	U
121-14-2-----	2,4-Dinitrotoluene	10	U
84-66-2-----	Diethylphthalate	10	U
7005-72-3-----	4-Chlorophenyl-phenylether	10	U
86-73-7-----	Fluorene	10	U
100-10-6-----	4-Nitroaniline	50	U
534-52-1-----	4,6-Dinitro-2-Methylphenol	50	U
86-30-6-----	N-Nitrosodiphenylamine (1)	10	U
101-55-3-----	4-Bromophenyl-phenylether	10	U
118-74-1-----	Hexachlorobenzene	10	U
87-86-5-----	Pentachlorophenol	50	U
85-01-8-----	Phenanthrene	10	U
120-12-7-----	Anthracene	10	U
84-74-2-----	Di-n-Butylphthalate	10	U
206-44-0-----	Fluoranthene	10	U
129-00-0-----	Pyrene	10	U
85-68-7-----	Butylbenzylphthalate	10	U
91-94-1-----	3,3'-Dichlorobenzidine	20	U
56-55-3-----	Benzo(a)Anthracene	10	U
218-01-9-----	Chrysene	10	U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0-----	Di-n-Octyl Phthalate	10	U
205-99-2-----	Benzo(b)Fluoranthene	10	U
207-08-9-----	Benzo(k)Fluoranthene	10	U
50-32-8-----	Benzo(a)Pyrene	10	U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3-----	Dibenz(a,h)Anthracene	10	U
191-24-2-----	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

1445213

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATER Lab Sample ID: BR-4Level (low/med): LOW Date Received: 04/06/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	26.0	U		P
7440-36-0	Antimony	16.0	U		P
7440-38-2	Arsenic	2.0	U	W	F
7440-39-3	Barium	226	U		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	13400	U		P
7440-47-3	Chromium	6.0	U		P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	17700	U		P
7439-92-1	Lead	1.0	U	W	F
7439-95-4	Magnesium	8530	-		P
7439-96-5	Manganese	1200	N		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	7.0	U		P
7440-09-7	Potassium	3270	B		P
7482-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	11100	*		P
7440-28-0	Thallium	1.0	U	W	F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	33.4	-		P
	Cyanide		-		NR

Color Before: COLORLESS
Color After: COLORLESSClarity Before: CLEAR
Clarity After: CLEARTexture: _____
Artifacts: _____

Comments:

AR302911

001401

0000015

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

1444513

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATER Lab Sample ID: BR-4Level (low/med): LOW Date Received: 04/06/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	108	B		P
7440-36-0	Antimony	16.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	283	U		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	16100			P
7440-47-3	Chromium	6.0	U		P
7440-48-4	Cobalt	7.5	B		P
7440-50-8	Copper	8.9	B		P
7439-89-6	Iron	37300			P
7439-92-1	Lead	1.4	B	W	F
7439-95-4	Magnesium	10200			P
7439-96-5	Manganese	1420			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	8.1	B		P
7440-09-7	Potassium	3000	B		P
7482-49-2	Selenium	20.0	U	N	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	17200			P
7440-28-0	Thallium	1.0	U	WN	F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	24.6			P
	Cyanide	10.0	U		AS

Color Before: YELLOW
Color After: COLORLESSClarity Before: CLEAR
Clarity After: CLEARTexture: _____
Artifacts: _____

Comments:

SELENIUM SAMPLE VALUE IS REPORTED AT A 10X DILUTION DUE TO MATRIX INTERFERENCE.

FORM I - IN

7/88

AR302912

001243

Method 524.2

Client Name: Dames & Moore
 Client ID: BR-5
 Lab ID: 013072-0018-SA
 Matrix: AQUEOUS
 Authorized: 08 APR 91

Sampled: 05 APR 91
 Prepared: NA

Received: 06 APR 91
 Analyzed: 17 APR 91

Parameter	Result	Units	Reporting Limit
Benzene	0.36	ug/L	0.50 J
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	0.19	ug/L	0.50 J
Chloroethane	ND	ug/L	0.50
Chloroform	0.17	ug/L	0.50 J
Chloromethane	0.36	ug/L	0.50 J
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	0.82	ug/L	0.50
1,1-Dichloroethane	1.6	ug/L	0.50
1,2-Dichloroethane	1.2	ug/L	0.50
1,1-Dichloroethene	1.7	ug/L	0.50
cis-1,2-Dichloroethene	430	ug/L	12 D
trans-1,2-Dichloroethene	0.86	ug/L	0.50 J
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	0.74	ug/L	0.50 D

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Martha Sullivan

Approved By: Khaja Eazazuddin AR302913

000034

Safe Drinking Water Act Volatile Organics (CONT.)

Enseco
Analytical Services

Method 524.2

Client Name: Dames & Moore
 Client ID: BR-5
 Lab ID: 013072-0018-SA
 Matrix: AQUEOUS
 Authorized: 08 APR 91

Sampled: 05 APR 91
 Prepared: NA

Received: 06 APR 91
 Analyzed: 17 APR 91

Parameter	Result	Units	Reporting Limit
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	ND	ug/L	0.50
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	0.060	ug/L	0.50 J
1,1,1-Trichloroethane	2.2	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	1500	ug/L	50 D
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	0.82	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50
Surrogate		Recovery	
4-Bromofluorobenzene	97	%	--

Note J : Result is detected below the reporting limit or is an estimated concentration.

Note D : Compound quantitated using a secondary dilution.

ND = Not detected

NA = Not applicable

Reported By: Martha Sullivan

Approved By: Khaja Eazazuddin 000035

AR302914

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ENSECO-EAST

Contract: _____

BR-5

Lab Code: EEAST Case No.: 13072 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13072-0018

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: G0929

Level: (low/med) LOW

Date Received: 04/06/91

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/12/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) <u>UG/L</u>	Q
108-95-2-----	Phenol	10	U
111-44-4-----	bis(2-Chloroethyl)Ether	10	U
95-57-8-----	2-Chlorophenol	10	U
541-73-1-----	1,3-Dichlorobenzene	10	U
106-46-7-----	1,4-Dichlorobenzene	10	U
100-51-6-----	Benzyl Alcohol	10	U
95-50-1-----	1,2-Dichlorobenzene	10	U
95-48-7-----	2-Methylphenol	10	U
39638-32-9-----	bis(2-Chloroisopropyl)Ether	10	U
106-44-5-----	4-Methylphenol	10	U
621-64-7-----	N-Nitroso-Di-n-Propylamine	10	U
67-72-1-----	Hexachloroethane	10	U
98-95-3-----	Nitrobenzene	10	U
78-59-1-----	Isophorone	10	U
88-75-5-----	2-Nitrophenol	10	U
105-67-9-----	2,4-Dimethylphenol	10	U
65-85-0-----	Benzoic Acid	50	U
111-91-1-----	bis(2-Chloroethoxy)Methane	10	U
120-83-2-----	2,4-Dichlorophenol	10	U
120-82-1-----	1,2,4-Trichlorobenzene	10	U
91-20-3-----	Naphthalene	10	U
106-47-8-----	4-Chloroaniline	10	U
87-68-3-----	Hexachlorobutadiene	10	U
59-50-7-----	4-Chloro-3-Methylphenol	10	U
91-57-6-----	2-Methylnaphthalene	10	U
77-47-4-----	Hexachlorocyclopentadiene	10	U
88-06-2-----	2,4,6-Trichlorophenol	10	U
95-95-4-----	2,4,5-Trichlorophenol	50	U
91-58-7-----	2-Chloronaphthalene	10	U
88-74-4-----	2-Nitroaniline	50	U
131-11-3-----	Dimethyl Phthalate	10	U
208-96-8-----	Acanaphthylene	10	U
606-20-2-----	2,6-Dinitrotoluene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ENSECO-EAST

Contract: _____

BR-5

Lab Code: EEAST Case No.: 13072

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13072-0018

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: G0929

Level: (low/med) LOW

Date Received: 04/06/91

% Moisture: not dec. dec. _____

Date Extracted: 04/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/12/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

Q

99-09-2-----	3-Nitroaniline	50	U
83-32-9-----	Acenaphthene	10	U
51-28-5-----	2,4-Dinitrophenol	50	U
100-02-7-----	4-Nitrophenol	50	U
132-64-9-----	Dibenzofuran	10	U
121-14-2-----	2,4-Dinitrotoluene	10	U
84-66-2-----	Diethylphthalate	10	U
7005-72-3-----	4-Chlorophenyl-phenylether	10	U
86-73-7-----	Fluorene	10	U
100-10-6-----	4-Nitroaniline	50	U
534-52-1-----	4,6-Dinitro-2-Methylphenol	50	U
86-30-6-----	N-Nitrosodiphenylamine (1)	10	U
101-55-3-----	4-Bromophenyl-phenylether	10	U
118-74-1-----	Hexachlorobenzene	10	U
87-86-5-----	Pentachlorophenol	50	U
85-01-8-----	Phenanthrene	10	U
120-12-7-----	Anthracene	10	U
84-74-2-----	Di-n-Butylphthalate	10	U
206-44-0-----	Fluoranthene	10	U
129-00-0-----	Pyrene	10	U
85-68-7-----	Butylbenzylphthalate	10	U
91-94-1-----	3,3'-Dichlorobenzidine	20	U
56-55-3-----	Benzo(a)Anthracene	10	U
218-01-9-----	Chrysene	10	U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0-----	Di-n-Octyl Phthalate	10	U
205-99-2-----	Benzo(b)Fluoranthene	10	U
207-08-9-----	Benzo(k)Fluoranthene	10	U
50-32-8-----	Benzo(a)Pyrene	10	U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3-----	Dibenz(a,h)Anthracene	10	U
191-24-2-----	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

0000018

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

1445216

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATER Lab Sample ID: BR-5Level (low/med): LOW Date Received: 04/06/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	26.0	U		P
7440-36-0	Antimony	16.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	318	U		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	14600	U		P
7440-47-3	Chromium	6.0	U		P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	10.1	B		P
7439-89-6	Iron	3190	-		P
7439-92-1	Lead	4.5	-		F
7439-95-4	Magnesium	8210	-		P
7439-96-5	Manganese	159	-	N	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	9.3	B		P
7440-09-7	Potassium	4080	B		P
7482-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	16500	-	*	P
7440-28-0	Thallium	1.0	U	W	F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	27.8	-		P
	Cyanide		-		NR

Color Before: COLORLESS
Color After: COLORLESSClarity Before: CLEAR
Clarity After: CLEARTexture:
Artifacts: _____

Comments:

FORM I - IN

7/88

AR302917

001404

0000018

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____1444516Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATER Lab Sample ID: BR-5Level (low/med): LOW Date Received: 04/06/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	391	-		P
7440-36-0	Antimony	16.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	361	U		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	15300			P
7440-47-3	Chromium	6.4	B		P
7440-48-4	Cobalt	4.3	B		P
7440-50-8	Copper	9.6	B		P
7439-89-6	Iron	14300			P
7439-92-1	Lead	3.0	-		F
7439-95-4	Magnesium	9060	-		P
7439-96-5	Manganese	205	-		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	9.6	B		P
7440-09-7	Potassium	2890	B		P
7482-49-2	Selenium	20.0	U	N	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	18800			P
7440-28-0	Thallium	1.0	U	WN	F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	17.3	B		P
	Cyanide	10.0	U		AS

Color Before: YELLOW
Color After: COLORLESSClarity Before: CLEAR
Clarity After: CLEARTexture: _____
Artifacts: _____

Comments:

SELENIUM SAMPLE VALUE IS REPORTED AT A 10X DILUTION DUE TO MATRIX INTERFERENCE.

AR302918

001252

Method 524.2

Client Name: Dames & Moore
 Client ID: BR-6
 Lab ID: 013072-0017-SA
 Matrix: AQUEOUS
 Authorized: 08 APR 91

Sampled: 05 APR 91
 Prepared: NA

Received: 06 APR 91
 Analyzed: 17 APR 91

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	0.10	ug/L	0.50 J
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	0.13	ug/L	0.50 J
1,3-Dichlorobenzene	0.070	ug/L	0.50 J
1,4-Dichlorobenzene	0.090	ug/L	0.50 J
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	0.12	ug/L	0.50 J
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	0.38	ug/L	0.50 J
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	0.16	ug/L	0.50 JB

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Martha Sullivan

Approved By: Khaja Eazazuddin

000032

AR302919

Safe Drinking Water Act Volatile Organics (CONT.)

Enseco
All time tested.

Method 524.2

Client Name: Dames & Moore
 Client ID: BR-6
 Lab ID: 013072-0017-SA
 Matrix: AQUEOUS
 Authorized: 08 APR 91

Sampled: 05 APR 91
 Prepared: NA

Received: 06 APR 91
 Analyzed: 17 APR 91

Parameter	Result	Units	Reporting Limit
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	5.5	ug/L	0.50
Toluene	0.060	ug/L	0.50 J
1,2,3-Trichlorobenzene	0.19	ug/L	0.50 J
1,2,4-Trichlorobenzene	0.15	ug/L	0.50 J
1,1,1-Trichloroethane	0.10	ug/L	0.50 J
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	2.6	ug/L	0.50
Trichlorofluoromethane	0.060	ug/L	0.50 J
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	0.050	ug/L	0.50 J
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	0.070	ug/L	0.50 J
Surrogate		Recovery	
4-Bromofluorobenzene	100	%	--

Note J : Result is detected below the reporting limit or is an estimated concentration.

Note B : Compound is also detected in the blank.

ND = Not detected

NA = Not applicable

Reported By: Martha Sullivan

Approved By: Khaja Eazazuddin

: 000033

AR302920

1B
SEMICVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ENSECO-EAST

Contract: _____

BR-6

Lab Code: EEAST Case No.: 13072

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: 13072-0017Sample wt/vol: 1000 (g/mL) MLLab File ID: G0928Level: (low/med) LOWDate Received: 04/06/91

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/10/91Extraction: (SepF/Cont/Sonc) SEPFDate Analyzed: 05/12/91GPC Cleanup: (Y/N) N pH: 7.0Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

108-95-2-----	Phenol	10	U
111-44-4-----	bis(2-Chloroethyl) Ether	10	U
95-57-8-----	2-Chlorophenol	10	U
541-73-1-----	1,3-Dichlorobenzene	10	U
106-46-7-----	1,4-Dichlorobenzene	10	U
100-51-6-----	Benzyl Alcohol	10	U
95-50-1-----	1,2-Dichlorobenzene	10	U
95-48-7-----	2-Methylphenol	10	U
39638-32-9-----	bis(2-Chloroisopropyl) Ether	10	U
106-44-5-----	4-Methylphenol	10	U
621-64-7-----	N-Nitroso-Di-n-Propylamine	10	U
67-72-1-----	Hexachloroethane	10	U
98-95-3-----	Nitrobenzene	10	U
78-59-1-----	Isophorone	10	U
88-75-5-----	2-Nitrophenol	10	U
105-67-9-----	2,4-Dimethylphenol	10	U
65-85-0-----	Benzoic Acid	50	U
111-91-1-----	bis(2-Chloroethoxy) Methane	10	U
120-83-2-----	2,4-Dichlorophenol	10	U
120-82-1-----	1,2,4-Trichlorobenzene	10	U
91-20-3-----	Naphthalene	10	U
106-47-8-----	4-Chloroaniline	10	U
87-68-3-----	Hexachlorobutadiene	10	U
59-50-7-----	4-Chloro-3-Methylphenol	10	U
91-57-6-----	2-Methylnaphthalene	10	U
77-47-4-----	Hexachlorocyclopentadiene	10	U
88-06-2-----	2,4,6-Trichlorophenol	10	U
95-95-4-----	2,4,5-Trichlorophenol	50	U
91-58-7-----	2-Chloronaphthalene	10	U
88-74-4-----	2-Nitroaniline	50	U
131-11-3-----	Dimethyl Phthalate	10	U
208-96-8-----	Acenaphthylene	10	U
606-20-2-----	2,6-Dinitrotoluene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ENSECO-EAST

Contract: _____

BR-6

Lab Code: EEAST Case No.: 13072

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13072-0017

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: G0928

Level: (low/med) LOW

Date Received: 04/06/91

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/12/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
99-09-2-----	3-Nitroaniline	50	U
83-32-9-----	Acenaphthene	10	U
51-28-5-----	2,4-Dinitrophenol	50	U
100-02-7-----	4-Nitrophenol	50	U
132-64-9-----	Dibenzofuran	10	U
121-14-2-----	2,4-Dinitrotoluene	10	U
84-66-2-----	Diethylphthalate	10	U
7005-72-3-----	4-Chlorophenyl-phenylether	10	U
86-73-7-----	Fluorene	10	U
100-10-6-----	4-Nitroaniline	50	U
534-52-1-----	4,6-Dinitro-2-Methylphenol	50	U
86-30-6-----	N-Nitrosodiphenylamine (1)	10	U
101-55-3-----	4-Bromophenyl-phenylether	10	U
118-74-1-----	Hexachlorobenzene	10	U
87-86-5-----	Pentachlorophenol	50	U
85-01-8-----	Phenanthrene	10	U
120-12-7-----	Anthracene	10	U
84-74-2-----	Di-n-Butylphthalate	10	U
206-44-0-----	Fluoranthene	10	U
129-00-0-----	Pyrene	10	U
85-68-7-----	Butylbenzylphthalate	10	U
91-94-1-----	3,3'-Dichlorobenzidine	20	U
56-55-3-----	Benzo(a)Anthracene	10	U
218-01-9-----	Chrysene	10	U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0-----	Di-n-Octyl Phthalate	10	U
205-99-2-----	Benzo(b)Fluoranthene	10	U
207-08-9-----	Benzo(k)Fluoranthene	10	U
50-32-8-----	Benzo(a)Pyrene	10	U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3-----	Dibenz(a,h)Anthracene	10	U
191-24-2-----	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

0000017

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

1445215

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATER Lab Sample ID: BR-6Level (low/med): LOW Date Received: 04/06/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	26.0	U		P
7440-36-0	Antimony	16.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	164	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	11300	U		P
7440-47-3	Chromium	6.0	U		P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	23000	U		P
7439-92-1	Lead	1.0	U		F
7439-95-4	Magnesium	7850	-		P
7439-96-5	Manganese	702	N		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	7.0	U		P
7440-09-7	Potassium	4020	B		P
7482-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	14400	*		P
7440-28-0	Thallium	1.0	U	W	F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	29.5	-		P
	Cyanide		-		NR

Color Before: COLORLESS
Color After: COLORLESSClarity Before: CLEAR
Clarity After: CLEARTexture:
Artifacts: _____

Comments:

FORM I - IN

7/88

001403

AR302923

0000017

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____1444515Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATER Lab Sample ID: BR-6Level (low/med): LOW Date Received: 04/06/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	80.4	B		P
7440-36-0	Antimony	16.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	180	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	11300			P
7440-47-3	Chromium	6.0	U		P
7440-48-4	Cobalt	5.5	B		P
7440-50-8	Copper	10.7	B		P
7439-89-6	Iron	37300			P
7439-92-1	Lead	1.0	U	W	F
7439-95-4	Magnesium	7990			P
7439-96-5	Manganese	709			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	8.6	B		P
7440-09-7	Potassium	1950	B		P
7482-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	15000			P
7440-28-0	Thallium	1.0	U	WN	F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	26.2	U		P
	Cyanide	10.0	U		AS

Color Before: YELLOW
Color After: COLORLESSClarity Before: CLEAR
Clarity After: CLEARTexture: _____
Artifacts: _____

Comments:

FORM I - IN

7/88

AR302924

001251

Safe Drinking Water Act Volatile Organics

Enseco

Method 524.2

Client Name: Dames & Moore
 Client ID: BR-7
 Lab ID: 013072-0016-SA
 Matrix: AQUEOUS
 Authorized: 08 APR 91

Sampled: 05 APR 91
 Prepared: NA

Received: 06 APR 91
 Analyzed: 16 APR 91

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	0.19	ug/L	0.50 J
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	0.74	ug/L	0.50
1,2-Dichloroethane	0.69	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	16	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	0.42	ug/L	0.50 JB

(continued on following page)

ND = Not detected

NA = Not applicable

000030

Reported By: Martha Sullivan

Approved By: Khaja Eazizuddin 11902925

Safe Drinking Water Act Volatile Organics (CONT.)

Enseco
Atmospheric Sciences

Method 524.2

Client Name: Dames & Moore
 Client ID: BR-7
 Lab ID: 013072-0016-SA
 Matrix: AQUEOUS
 Authorized: 08 APR 91

Sampled: 05 APR 91
 Prepared: NA

Received: 06 APR 91
 Analyzed: 16 APR 91

Parameter	Result	Units	Reporting Limit
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethylene	3.6	ug/L	0.50
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	1.3	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethylene	170	ug/L	5.0 D
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloroproppane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50
Surrogate	Recovery		
4-Bromofluorobenzene	95	%	--

Note J : Result is detected below the reporting limit or is an estimated concentration.

Note B : Compound is also detected in the blank.

Note D : Compound quantitated using a secondary dilution.

ND = Not detected

NA = Not applicable

Reported By: Martha Sullivan

Approved By: Khaja Eazazuddin

000031

AR302926

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ENSECO-EAST

Contract: _____

BR-7

Lab Code: EEAST Case No.: 13072

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13072-0016

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: G0927

Level: (low/med) LOW

Date Received: 04/06/91

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/12/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

Q

<u>108-95-2-----Phenol</u>	<u>10</u>	<u>U</u>
<u>111-44-4-----bis(2-Chloroethyl)Ether</u>	<u>10</u>	<u>U</u>
<u>95-57-8-----2-Chlorophenol</u>	<u>10</u>	<u>U</u>
<u>541-73-1-----1,3-Dichlorobenzene</u>	<u>10</u>	<u>U</u>
<u>106-46-7-----1,4-Dichlorobenzene</u>	<u>10</u>	<u>U</u>
<u>100-51-6-----Benzyl Alcohol</u>	<u>10</u>	<u>U</u>
<u>95-50-1-----1,2-Dichlorobenzene</u>	<u>10</u>	<u>U</u>
<u>95-48-7-----2-Methylphenol</u>	<u>10</u>	<u>U</u>
<u>39638-32-9-----bis(2-Chloroisopropyl)Ether</u>	<u>10</u>	<u>U</u>
<u>106-44-5-----4-Methylphenol</u>	<u>10</u>	<u>U</u>
<u>621-64-7-----N-Nitroso-Di-n-Propylamine</u>	<u>10</u>	<u>U</u>
<u>67-72-1-----Hexachloroethane</u>	<u>10</u>	<u>U</u>
<u>98-95-3-----Nitrobenzene</u>	<u>10</u>	<u>U</u>
<u>78-59-1-----Isophorone</u>	<u>10</u>	<u>U</u>
<u>88-75-5-----2-Nitrophenol</u>	<u>10</u>	<u>U</u>
<u>105-67-9-----2,4-Dimethylphenol</u>	<u>10</u>	<u>U</u>
<u>65-85-0-----Benzoic Acid</u>	<u>50</u>	<u>U</u>
<u>111-91-1-----bis(2-Chloroethoxy)Methane</u>	<u>10</u>	<u>U</u>
<u>120-83-2-----2,4-Dichlorophenol</u>	<u>10</u>	<u>U</u>
<u>120-82-1-----1,2,4-Trichlorobenzene</u>	<u>10</u>	<u>U</u>
<u>91-20-3-----Naphthalene</u>	<u>10</u>	<u>U</u>
<u>106-47-8-----4-Chloroaniline</u>	<u>10</u>	<u>U</u>
<u>87-68-3-----Hexachlorobutadiene</u>	<u>10</u>	<u>U</u>
<u>59-50-7-----4-Chloro-3-Methylphenol</u>	<u>10</u>	<u>U</u>
<u>91-57-6-----2-Methylnaphthalene</u>	<u>10</u>	<u>U</u>
<u>77-47-4-----Hexachlorocyclopentadiene</u>	<u>10</u>	<u>U</u>
<u>88-06-2-----2,4,6-Trichlorophenol</u>	<u>10</u>	<u>U</u>
<u>95-95-4-----2,4,5-Trichlorophenol</u>	<u>50</u>	<u>U</u>
<u>91-58-7-----2-Chloronaphthalene</u>	<u>10</u>	<u>U</u>
<u>88-74-4-----2-Nitroaniline</u>	<u>50</u>	<u>U</u>
<u>131-11-3-----Dimethyl Phthalate</u>	<u>10</u>	<u>U</u>
<u>208-96-8-----Acenaphthylene</u>	<u>10</u>	<u>U</u>
<u>606-20-2-----2,6-Dinitrotoluene</u>	<u>10</u>	<u>U</u>

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ENSECO-EAST

Contract: _____

BR-7

Lab Code: EEAST Case No.: 13072

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13072-0016

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: G0927

Level: (low/med) LOW

Date Received: 04/06/91

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/12/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

Q

<u>99-09-2-----3-Nitroaniline</u>	<u>50</u>	<u>U</u>
<u>83-32-9-----Acenaphthene</u>	<u>10</u>	<u>U</u>
<u>51-28-5-----2,4-Dinitrophenol</u>	<u>50</u>	<u>U</u>
<u>100-02-7-----4-Nitrophenol</u>	<u>50</u>	<u>U</u>
<u>132-64-9-----Dibenzofuran</u>	<u>10</u>	<u>U</u>
<u>121-14-2-----2,4-Dinitrotoluene</u>	<u>10</u>	<u>U</u>
<u>84-66-2-----Diethylphthalate</u>	<u>10</u>	<u>U</u>
<u>7005-72-3-----4-Chlorophenyl-phenylether</u>	<u>10</u>	<u>U</u>
<u>86-73-7-----Fluorene</u>	<u>10</u>	<u>U</u>
<u>100-10-6-----4-Nitroaniline</u>	<u>50</u>	<u>U</u>
<u>534-52-1-----4,6-Dinitro-2-Methylphenol</u>	<u>50</u>	<u>U</u>
<u>86-30-6-----N-Nitrosodiphenylamine (1)</u>	<u>10</u>	<u>U</u>
<u>101-55-3-----4-Bromophenyl-phenylether</u>	<u>10</u>	<u>U</u>
<u>118-74-1-----Hexachlorobenzene</u>	<u>10</u>	<u>U</u>
<u>87-86-5-----Pentachlorophenol</u>	<u>50</u>	<u>U</u>
<u>85-01-8-----Phenanthrene</u>	<u>10</u>	<u>U</u>
<u>120-12-7-----Anthracene</u>	<u>10</u>	<u>U</u>
<u>84-74-2-----Di-n-Butylphthalate</u>	<u>10</u>	<u>U</u>
<u>206-44-0-----Fluoranthene</u>	<u>10</u>	<u>U</u>
<u>129-00-0-----Pyrene</u>	<u>10</u>	<u>U</u>
<u>85-68-7-----Butylbenzylphthalate</u>	<u>10</u>	<u>U</u>
<u>91-94-1-----3,3'-Dichlorobenzidine</u>	<u>20</u>	<u>U</u>
<u>56-55-3-----Benzo(a)Anthracene</u>	<u>10</u>	<u>U</u>
<u>218-01-9-----Chrysene</u>	<u>10</u>	<u>U</u>
<u>117-81-7-----bis(2-Ethylhexyl)Phthalate</u>	<u>10</u>	<u>U</u>
<u>117-84-0-----Di-n-Octyl Phthalate</u>	<u>10</u>	<u>U</u>
<u>205-99-2-----Benzo(b)Fluoranthene</u>	<u>10</u>	<u>U</u>
<u>207-08-9-----Benzo(k)Fluoranthene</u>	<u>10</u>	<u>U</u>
<u>50-32-8-----Benzo(a)Pyrene</u>	<u>10</u>	<u>U</u>
<u>193-39-5-----Indeno(1,2,3-cd)Pyrene</u>	<u>10</u>	<u>U</u>
<u>53-70-3-----Dibenz(a,h)Anthracene</u>	<u>10</u>	<u>U</u>
<u>191-24-2-----Benzo(g,h,i)Perylene</u>	<u>10</u>	<u>U</u>

(1) - Cannot be separated from Diphenylamine

1
INORGANIC ANALYSIS DATA SHEET

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____1445214Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATER Lab Sample ID: BR-7Level (low/med): LOW Date Received: 04/06/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	26.0	U		P
7440-36-0	Antimony	16.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	114	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	13900			P
7440-47-3	Chromium	6.0	U		P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	10.3	B		P
7439-89-6	Iron	2850			P
7439-92-1	Lead	1.0	U		F
7439-95-4	Magnesium	9350			P
7439-96-5	Manganese	195		N	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	15.1	B		P
7440-09-7	Potassium	5310			P
7482-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	20200		*	P
7440-28-0	Thallium	1.0	U	W	F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	38.7			P
	Cyanide				NR

Color Before: COLORLESS
Color After: COLORLESSClarity Before: CLEAR
Clarity After: CLEARTexture:
Artifacts: _____

Comments:

0000016

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____1444514Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATER Lab Sample ID: BR-7Level (low/med): LOW Date Received: 04/06/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	322	-		P
7440-36-0	Antimony	16.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	119	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	14100			P
7440-47-3	Chromium	6.0	U		P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	7.3	B		P
7439-89-6	Iron	6910			P
7439-92-1	Lead	3.2	-		F
7439-95-4	Magnesium	9450	-		P
7439-96-5	Manganese	224			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	15.7	B		P
7440-09-7	Potassium	4740	B		P
7482-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	20800			P
7440-28-0	Thallium	1.0	U	WN	F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	26.1			P
	Cyanide	10.0	U		AS

Color Before: YELLOW
Color After: COLORLESSClarity Before: CLEAR
Clarity After: CLEARTexture:
Artifacts: _____

Comments:

FORM I - IN

7/88

001250

AR302930

Safe Drinking Water Act Volatile Organics

Enseco
Analytical Services

Method 524.2

Client Name: Dames & Moore
 Client ID: BR-8
 Lab ID: 013072-0019-SA
 Matrix: AQUEOUS
 Authorized: 08 APR 91

Sampled: 05 APR 91
 Prepared: NA

Received: 06 APR 91
 Analyzed: 17 APR 91

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	0.41	ug/L	0.50
Chloroform	0.25	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	2.0	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	2.8	ug/L	0.50
cis-1,2-Dichloroethene	730	ug/L	25
trans-1,2-Dichloroethene	0.73	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	0.24	ug/L	0.50

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Martha Sullivan

Approved By: Khaja Eazazuddin

AR302931

000036

Safe Drinking Water Act Volatile Organics (CONT.)

Enseco
A Cominco Company

Method 524.2

Client Name: Dames & Moore
 Client ID: BR-8
 Lab ID: 013072-0019-SA
 Matrix: AQUEOUS
 Authorized: 08 APR 91

Sampled: 05 APR 91
 Prepared: NA

Received: 06 APR 91
 Analyzed: 17 APR 91

Parameter	Result	Units	Reporting Limit
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	ND	ug/L	0.50
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	1.9	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	1400	ug/L	25 D
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	0.83	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50
Surrogate			
Recovery			
4-Bromofluorobenzene	100	%	--

Note J : Result is detected below the reporting limit or is an estimated concentration.

Note D : Compound quantitated using a secondary dilution.

Note B : Compound is also detected in the blank.

ND = Not detected

NA = Not applicable

Reported By: Martha Sullivan

Approved By: Khaja Eazazuddin

000037

AR302932

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ENSECO-EAST

Contract: _____

BR-8

Lab Code: EEAST Case No.: 13072

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13072-0019

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: G0930

Level: (low/med) LOW

Date Received: 04/06/91

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/12/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ENSECO-EAST

Contract: _____

BR-8

Lab Code: FEAST Case No.: 13072

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13072-0019

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: G0930

Level: (low/med) LOW

Date Received: 04/06/91

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/12/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
99-09-2-----	3-Nitroaniline	50	U	
83-32-9-----	Acenaphthene	10	U	
51-28-5-----	2,4-Dinitrophenol	50	U	
100-02-7-----	4-Nitrophenol	50	U	
132-64-9-----	Dibenzofuran	10	U	
121-14-2-----	2,4-Dinitrotoluene	10	U	
84-66-2-----	Diethylphthalate	10	U	
7005-72-3-----	4-Chlorophenyl-phenylether	10	U	
86-73-7-----	Fluorene	10	U	
100-10-6-----	4-Nitroaniline	50	U	
534-52-1-----	4,6-Dinitro-2-Methylphenol	50	U	
86-30-6-----	N-Nitrosodiphenylamine (1)	10	U	
101-55-3-----	4-Bromophenyl-phenylether	10	U	
118-74-1-----	Hexachlorobenzene	10	U	
87-86-5-----	Pentachlorophenol	50	U	
85-01-8-----	Phenanthrene	10	U	
120-12-7-----	Anthracene	10	U	
84-74-2-----	Di-n-Butylphthalate	10	U	
206-44-0-----	Fluoranthene	10	U	
129-00-0-----	Pyrene	10	U	
85-68-7-----	Butylbenzylphthalate	10	U	
91-94-1-----	3,3'-Dichlorobenzidine	20	U	
56-55-3-----	Benzo(a)Anthracene	10	U	
218-01-9-----	Chrysene	10	U	
117-81-7-----	bis(2-Ethylhexyl)Phthalate	10	U	
117-84-0-----	Di-n-Octyl Phthalate	10	U	
205-99-2-----	Benzo(b)Fluoranthene	10	U	
207-08-9-----	Benzo(k)Fluoranthene	10	U	
50-32-8-----	Benzo(a)Pyrene	10	U	
193-39-5-----	Indeno(1,2,3-cd)Pyrene	10	U	
53-70-3-----	Dibenz(a,h)Anthracene	10	U	
191-24-2-----	Benzo(g,h,i)Perylene	10	U	

(1) - Cannot be separated from Diphenylamine

0000019

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

1445217

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATERLab Sample ID: BR-8Level (low/med): LOWDate Received: 04/06/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	26.0	U		P
7440-36-0	Antimony	19.1	B		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	263	U		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	12900	U		P
7440-47-3	Chromium	6.0	U		P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	2690			P
7439-92-1	Lead	1.0	U		F
7439-95-4	Magnesium	7000			P
7439-96-5	Manganese	460		N	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	8.8	B		P
7440-09-7	Potassium	2070	B		P
7482-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	16100		*	P
7440-28-0	Thallium	1.0	U	W	F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	56.7			P
	Cyanide				NR

Color Before: COLORLESS
Color After: COLORLESSClarity Before: CLEAR
Clarity After: CLEARTexture: _____
Artifacts: _____

Comments:

FORM I - IN

7/88

AR302935

001405

0000019

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____1444517Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATER Lab Sample ID: BR-8Level (low/med): LOW Date Received: 04/06/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	524	-		P
7440-36-0	Antimony	16.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	301	U		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	13500	U		P
7440-47-3	Chromium	6.4	B		P
7440-48-4	Cobalt	9.1	B		P
7440-50-8	Copper	7.4	B		P
7439-89-6	Iron	7330	-		P
7439-92-1	Lead	6.2	-		F
7439-95-4	Magnesium	7620	-		P
7439-96-5	Manganese	542	-		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	9.6	B		P
7440-09-7	Potassium	1820	B		P
7482-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	17300	U		P
7440-28-0	Thallium	1.0	U	WN	F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	30.9	U		P
	Cyanide	10.0	U		AS

Color Before: YELLOW
Color After: COLORLESSClarity Before: CLEAR
Clarity After: CLEARTexture: _____
Artifacts: _____

Comments:

FORM I - IN

7/88

001253

AR302936

Safe Drinking Water Act Volatile Organics

Enseco
Environmental Services

Method 524.2

Client Name: Dames & Moore
 Client ID: FIELD BLANK
 Lab ID: 013072-0002-FB
 Matrix: AQUEOUS
 Authorized: 08 APR 91

Sampled: 03 APR 91
 Prepared: NA

Received: 06 APR 91
 Analyzed: 15 APR 91

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	ND	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	0.12	ug/L	0.50 J
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	0.12	ug/L	0.50 JB

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Martha Sullivan

Approved By: Khaja Eazazuddin
AR302937

000004

~~Safe Drinking Water Act Volatile Organics (CONT.)~~

Enseco
An Enserch Company

Method 524.2

Client Name: Dames & Moore
Client ID: FIELD BLANK
Lab ID: 013072-0002-FB
Matrix: AQUEOUS
Authorized: 08 APR 91

Sampled: 03 APR 91
Prepared: NA

Received: 06 APR 91
Analyzed: 15 APR 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	0.080	ug/L	0.50	J
Toluene	0.11	ug/L	0.50	J
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	ND	ug/L	0.50	
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	0.10	ug/L	0.50	J
Trichlorofluoromethane	0.25	ug/L	0.50	J
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	ND	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	
Surrogate		Recovery		
4-Bromofluorobenzene	98	%	--	

Note J : Result is detected below the reporting limit or is an estimated concentration.

Note B : Compound is also detected in the blank.

ND = Not detected

NA = Not applicable

Reported By: Martha Sullivan

Approved By: Khaja Eazazuddin

000005

AR302938

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ENSECO-EAST

Contract: _____

FIELD_BLANK

Lab Code: EEAST Case No.: 13072

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13072-0002

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: G0875

Level: (low/med) LOW

Date Received: 04/06/91

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/09/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

Q

<u>108-95-2-----Phenol</u>	<u>10</u>	<u>U</u>
<u>111-44-4-----bis(2-Chloroethyl)Ether</u>	<u>10</u>	<u>U</u>
<u>95-57-8-----2-Chlorophenol</u>	<u>10</u>	<u>U</u>
<u>541-73-1-----1,3-Dichlorobenzene</u>	<u>10</u>	<u>U</u>
<u>106-46-7-----1,4-Dichlorobenzene</u>	<u>10</u>	<u>U</u>
<u>100-51-6-----Benzyl Alcohol</u>	<u>10</u>	<u>U</u>
<u>95-50-1-----1,2-Dichlorobenzene</u>	<u>10</u>	<u>U</u>
<u>95-48-7-----2-Methylphenol</u>	<u>10</u>	<u>U</u>
<u>39638-32-9-----bis(2-Chloroisopropyl)Ether</u>	<u>10</u>	<u>U</u>
<u>106-44-5-----4-Methylphenol</u>	<u>10</u>	<u>U</u>
<u>621-64-7-----N-Nitroso-Di-n-Propylamine</u>	<u>10</u>	<u>U</u>
<u>67-72-1-----Hexachloroethane</u>	<u>10</u>	<u>U</u>
<u>98-95-3-----Nitrobenzene</u>	<u>10</u>	<u>U</u>
<u>78-59-1-----Isophorone</u>	<u>10</u>	<u>U</u>
<u>88-75-5-----2-Nitrophenol</u>	<u>10</u>	<u>U</u>
<u>105-67-9-----2,4-Dimethylphenol</u>	<u>10</u>	<u>U</u>
<u>65-85-0-----Benzoic Acid</u>	<u>50</u>	<u>U</u>
<u>111-91-1-----bis(2-Chloroethoxy)Methane</u>	<u>10</u>	<u>U</u>
<u>120-83-2-----2,4-Dichlorophenol</u>	<u>10</u>	<u>U</u>
<u>120-82-1-----1,2,4-Trichlorobenzene</u>	<u>10</u>	<u>U</u>
<u>91-20-3-----Naphthalene</u>	<u>10</u>	<u>U</u>
<u>106-47-8-----4-Chloroaniline</u>	<u>10</u>	<u>U</u>
<u>87-68-3-----Hexachlorobutadiene</u>	<u>10</u>	<u>U</u>
<u>59-50-7-----4-Chloro-3-Methylphenol</u>	<u>10</u>	<u>U</u>
<u>91-57-6-----2-Methylnaphthalene</u>	<u>10</u>	<u>U</u>
<u>77-47-4-----Hexachlorocyclopentadiene</u>	<u>10</u>	<u>U</u>
<u>88-06-2-----2,4,6-Trichlorophenol</u>	<u>10</u>	<u>U</u>
<u>95-95-4-----2,4,5-Trichlorophenol</u>	<u>50</u>	<u>U</u>
<u>91-58-7-----2-Chloronaphthalene</u>	<u>10</u>	<u>U</u>
<u>88-74-4-----2-Nitroaniline</u>	<u>50</u>	<u>U</u>
<u>131-11-3-----Dimethyl Phthalate</u>	<u>10</u>	<u>U</u>
<u>208-96-8-----Acenaphthylene</u>	<u>10</u>	<u>U</u>
<u>606-20-2-----2,6-Dinitrotoluene</u>	<u>10</u>	<u>U</u>

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: <u>ENSECO-EAST</u>	Contract: _____	FIELD_BLANK
Lab Code: <u>EEAST</u>	Case No.: <u>13072</u>	SAS No.: _____ SDG No.: _____
Matrix: (soil/water) <u>WATER</u>	Lab Sample ID: <u>13072-0002</u>	
Sample wt/vol: <u>1000</u> (g/mL) <u>ML</u>	Lab File ID: <u>G0875</u>	
Level: (low/med) <u>LOW</u>	Date Received: <u>04/06/91</u>	
% Moisture: not dec. _____ dec. _____	Date Extracted: <u>04/10/91</u>	
Extraction: (SepF/Cont/Sonc) <u>SEPF</u>	Date Analyzed: <u>05/09/91</u>	
GPC Cleanup: (Y/N) <u>N</u>	pH: <u>7.0</u>	Dilution Factor: <u>1.0</u>

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>		Q
99-09-2-----	3-Nitroaniline	50	U	
83-32-9-----	Acenaphthene	10	U	
51-28-5-----	2,4-Dinitrophenol	50	U	
100-02-7-----	4-Nitrophenol	50	U	
132-64-9-----	Dibenzofuran	10	U	
121-14-2-----	2,4-Dinitrotoluene	10	U	
84-66-2-----	Diethylphthalate	10	U	
7005-72-3-----	4-Chlorophenyl-phenylether	10	U	
86-73-7-----	Fluorene	10	U	
100-10-6-----	4-Nitroaniline	50	U	
534-52-1-----	4,6-Dinitro-2-Methylphenol	50	U	
86-30-6-----	N-Nitrosodiphenylamine (1)	10	U	
101-55-3-----	4-Bromophenyl-phenylether	10	U	
118-74-1-----	Hexachlorobenzene	10	U	
87-86-5-----	Pentachlorophenol	50	U	
85-01-8-----	Phenanthrene	10	U	
120-12-7-----	Anthracene	10	U	
84-74-2-----	Di-n-Butylphthalate	10	U	
206-44-0-----	Fluoranthene	10	U	
129-00-0-----	Pyrene	10	U	
85-68-7-----	Butylbenzylphthalate	10	U	
91-94-1-----	3,3'-Dichlorobenzidine	20	U	
56-55-3-----	Benzo(a)Anthracene	10	U	
218-01-9-----	Chrysene	10	U	
117-81-7-----	bis(2-Ethylhexyl)Phthalate	10	U	
117-84-0-----	Di-n-Octyl Phthalate	10	U	
205-99-2-----	Benzo(b)Fluoranthene	10	U	
207-08-9-----	Benzo(k)Fluoranthene	10	U	
50-32-8-----	Benzo(a)Pyrene	10	U	
193-39-5-----	Indeno(1,2,3-cd)Pyrene	10	U	
53-70-3-----	Dibenz(a,h)Anthracene	10	U	
191-24-2-----	Benzo(g,h,i)Perylene	10	U	

(1) - Cannot be separated from Diphenylamine

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____1445201Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATER Lab Sample ID: FIELDBLANKLevel (low/med): LOW Date Received: 04/06/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	26.0	U		P
7440-36-0	Antimony	16.0	U		P
7440-38-2	Arsenic	2.0	U	W	F
7440-39-3	Barium	2.0	U		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	246	B		P
7440-47-3	Chromium	6.0	U		P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	20.0	U		P
7439-92-1	Lead	1.0	U		F
7439-95-4	Magnesium	66.0	U		P
7439-96-5	Manganese	7.0	U	N	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	7.0	U		P
7440-09-7	Potassium	103	U		P
7482-49-2	Selenium	2.0	U	N	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	1230	U	*	P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	11.9	B		P
	Cyanide		-		NR

Color Before: COLORLESS
Color After: COLORLESSClarity Before: CLEAR
Clarity After: CLEARTexture: _____
Artifacts: _____

Comments:

THIS SAMPLE IS A FIELD BLANK.

0000003

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: _____

1444501

Lab Code: ENSECO Case No.: _____ SAS No.: _____ SDG No.: _____Matrix (soil/water): WATERLab Sample ID: FIELD BLANKLevel (low/med): LOWDate Received: 04/06/91% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	26.0	U		P
7440-36-0	Antimony	16.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	2.0	U		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	310	B		P
7440-47-3	Chromium	6.0	U		P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	6.0	U		P
7439-89-6	Iron	20.0	U		P
7439-92-1	Lead	7.2	U		F
7439-95-4	Magnesium	66.0	U		P
7439-96-5	Manganese	7.0	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	7.0	U		P
7440-09-7	Potassium	103	U		P
7482-49-2	Selenium	2.0	U	N	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	1230	U		P
7440-28-0	Thallium	1.0	U	N	F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	22.4	U		P
	Cyanide	10.0	U		AS

Color Before: COLORLESS
Color After: COLORLESSClarity Before: CLEAR
Clarity After: CLEARTexture:
Artifacts: _____

Comments:

THIS SAMPLE IS A FIELD BLANK.

AR302942

001237

Method 524.2

Client Name: Dames & Moore
 Client ID: TRIP BLANK
 Lab ID: 013072-0001-TB
 Matrix: AQUEOUS
 Authorized: 08 APR 91

Sampled: 01 APR 91
 Prepared: NA

Received: 06 APR 91
 Analyzed: 15 APR 91

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	0.11	ug/L	0.50 J
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	0.070	ug/L	0.50 J
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	ND	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	0.17	ug/L	0.50 JB

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Martha Sullivan

Approved By: Khaja Eazazuddin

000002

AR302943

Safe Drinking Water Act Volatile Organics (CONT.)

Enseco
Analytical Services

Method 524.2

Client Name: Dames & Moore

Client ID: TRIP BLANK

Lab ID: 013072-0001-TB

Matrix: AQUEOUS

Authorized: 08 APR 91

Sampled: 01 APR 91

Prepared: NA

Received: 06 APR 91

Analyzed: 15 APR 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	0.37	ug/L	0.50	J
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	ND	ug/L	0.50	
Toluene	ND	ug/L	0.50	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	0.15	ug/L	0.50	J
1,1,1-Trichloroethane	ND	ug/L	0.50	
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	ND	ug/L	0.50	
Trichlorofluoromethane	ND	ug/L	0.50	
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	ND	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	
Surrogate				
Recovery				
4-Bromofluorobenzene	96	%	--	

Note J : Result is detected below the reporting limit or is an estimated concentration.

Note B : Compound is also detected in the blank.

ND = Not detected

NA = Not applicable

Reported By: Martha Sullivan

Approved By: Khaja Eazazuddin

000003

AR302944

METHOD BLANK REPORT
Volatile Organics by GC/MS

Enseco
Technologies

Analyte	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	ND	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	0.11	ug/L	0.50

J

J = Result is detected below the reporting limit or is an estimated concentration.

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METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
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Test: 524-SDWA-AP
Matrix: AQUEOUS
QC Lot: 15 APR 91-G QC Run: 15 APR 91-A

Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	ND	ug/L	0.50
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	ND	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	ND	ug/L	0.50
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50

Test: 524-SDWA-AP
Matrix: AQUEOUS
QC Lot: 15 APR 91-G QC Run: 15 APR 91-A

Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50

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METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)

Enseco
A Coming Company

Analyte	Result	Units	Reporting Limit
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	ND	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethybenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	0.11	ug/L	0.50
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	ND	ug/L	0.50
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	ND	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	ND	ug/L	0.50
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50

J

J = Result is detected below the reporting limit or is an estimated concentration.

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METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)

Enseco
A Comline Company

Analyte	Result	Units	Reporting Limit
Test: 524-SDWA-AP			
Matrix: AQUEOUS			
QC Lot: 15 APR 91-G QC Run: 15 APR 91-A			
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50
Test: 524-SDWA-AP			
Matrix: AQUEOUS			
QC Lot: 15 APR 91-G QC Run: 15 APR 91-A			
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	ND	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50

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METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)

Enseco
A Division of VWR International

Analyte	Result	Units	Reporting Limit
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Test: 524-SDWA-AP
Matrix: AQUEOUS
QC Lot: 15 APR 91-G QC Run: 15 APR 91-A

2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	0.11	ug/L	0.50
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	ND	ug/L	0.50
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	ND	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	ND	ug/L	0.50
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50

Test: 524-SDWA-AP
Matrix: AQUEOUS
QC Lot: 15 APR 91-G QC Run: 16 APR 91-A

Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50

J = Result is detected below the reporting limit or is an estimated concentration.

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METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)

Enseco
A Coming Company

Analyte	Result	Units	Reporting Limit
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	ND	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	0.10	ug/L	0.50
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	ND	ug/L	0.50
Toluene	ND	ug/L	0.50

J = Result is detected below the reporting limit or is an estimated concentration.

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METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
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Test: 524-SDWA-AP
 Matrix: AQUEOUS
 QC Lot: 15 APR 91-G QC Run: 16 APR 91-A

1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	ND	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethylene	ND	ug/L	0.50
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50

Test: 524-SDWA-AP
 Matrix: AQUEOUS
 QC Lot: 15 APR 91-G QC Run: 16 APR 91-B

Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50

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METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)

Enseco
A Coming Company

Analyte	Result	Units	Reporting Limit
Test: 524-SDWA-AP			
Matrix: AQUEOUS			
QC Lot: 15 APR 91-G QC Run: 16 APR 91-B			
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	ND	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	0.14	ug/L	0.50
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	ND	ug/L	0.50
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	ND	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	ND	ug/L	0.50
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50

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J = Result is detected below the reporting limit or is an estimated concentration.

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METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)

Enseco
Analytical Services

Analyte	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	ND	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	0.14	ug/L	0.50

J

J = Result is detected below the reporting limit or is an estimated concentration.

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METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
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Test: 524-SDWA-AP
 Matrix: AQUEOUS
 QC Lot: 17 APR 91-G QC Run: 16 APR 91-B

Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	ND	ug/L	0.50
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	ND	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	ND	ug/L	0.50
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50

Test: 524-SDWA-AP
 Matrix: AQUEOUS
 QC Lot: 17 APR 91-G QC Run: 16 APR 91-B

Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50

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METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)

Enseco
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Analyte	Result	Units	Reporting Limit
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	ND	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	0.14	ug/L	0.50
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	ND	ug/L	0.50
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	ND	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	ND	ug/L	0.50
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50

J

J = Result is detected below the reporting limit or is an estimated concentration.

000056

AR302955

METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)

Enseco
A Ciba-Geigy Company

Analyte	Result	Units	Reporting Limit
Test: 524-SDWA-AP			
Matrix: AQUEOUS			
QC Lot: 17 APR 91-G QC Run: 16 APR 91-B			
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50
Test: 524-SDWA-AP			
Matrix: AQUEOUS			
QC Lot: 17 APR 91-G QC Run: 16 APR 91-B			
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	ND	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50

AR302956

000057

METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)

Enseco
Environmental Services

Analyte	Result	Units	Reporting Limit
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Test: 524-SDWA-AP
Matrix: AQUEOUS
QC Lot: 17 APR 91-G QC Run: 16 APR 91-B

2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	0.14	ug/L	0.50
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	ND	ug/L	0.50
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	ND	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	ND	ug/L	0.50
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50

Test: 524-SDWA-AP
Matrix: AQUEOUS
QC Lot: 17 APR 91-G QC Run: 17 APR 91-B

Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50

J = Result is detected below the reporting limit or is an estimated concentration.

000058

AR302957

METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)

Enseco
Analytical Services

Analyte	Result	Units	Reporting Limit
Test: 524-SDWA-AP			
Matrix: AQUEOUS			
QC Lot: 17 APR 91-G QC Run: 17 APR 91-B			
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	ND	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	0.13	ug/L	0.50
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	ND	ug/L	0.50
Toluene	ND	ug/L	0.50

J

J = Result is detected below the reporting limit or is an estimated concentration.

000059

AR302958

METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)

Enseco
The mining & mining

Analyte	Result	Units	Reporting Limit
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Test: 524-SDWA-AP

Matrix: AQUEOUS

QC Lot: 17 APR 91-G QC Run: 17 APR 91-B

1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	ND	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	ND	ug/L	0.50
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50

000060

AR30295

18
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: <u>ENSECO-EAST</u>	Contract: _____	SBLK_01
Lab Code: <u>EEAST</u>	Case No.: <u>13072</u>	SAS No.: _____ SDG No.: _____
Matrix: (soil/water) <u>WATER</u>	Lab Sample ID: <u>10APR91AWB</u>	
Sample wt/vol: <u>1000</u> (g/mL) <u>ML</u>	Lab File ID: <u>G0844</u>	
Level: (low/med) <u>LOW</u>	Date Received: _____	
% Moisture: not dec. _____ dec. _____	Date Extracted: <u>04/10/91</u>	
Extraction: (SepF/Cont/Sonc) <u>SEPF</u>	Date Analyzed: <u>05/08/91</u>	
GPC Cleanup: (Y/N) <u>N</u>	pH: <u>7.0</u>	Dilution Factor: <u>1.0</u>

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	
108-95-2-----	Phenol	10	U
111-44-4-----	bis(2-Chloroethyl) Ether	10	U
95-57-8-----	2-Chlorophenol	10	U
541-73-1-----	1,3-Dichlorobenzene	10	U
106-46-7-----	1,4-Dichlorobenzene	10	U
100-51-6-----	Benzyl Alcohol	10	U
95-50-1-----	1,2-Dichlorobenzene	10	U
95-48-7-----	2-Methylphenol	10	U
39638-32-9-----	bis(2-Chloroisopropyl) Ether	10	U
106-44-5-----	4-Methylphenol	10	U
621-64-7-----	N-Nitroso-Di-n-Propylamine	10	U
67-72-1-----	Hexachloroethane	10	U
98-95-3-----	Nitrobenzene	10	U
78-59-1-----	Isophorone	10	U
88-75-5-----	2-Nitrophenol	10	U
105-67-9-----	2,4-Dimethylphenol	10	U
65-85-0-----	Benzoic Acid	50	U
111-91-1-----	bis(2-Chloroethoxy) Methane	10	U
120-83-2-----	2,4-Dichlorophenol	10	U
120-82-1-----	1,2,4-Trichlorobenzene	10	U
91-20-3-----	Naphthalene	10	U
106-47-8-----	4-Chloroaniline	10	U
87-68-3-----	Hexachlorobutadiene	10	U
59-50-7-----	4-Chloro-3-Methylphenol	10	U
91-57-6-----	2-Methylnaphthalene	10	U
77-47-4-----	Hexachlorocyclopentadiene	10	U
88-06-2-----	2,4,6-Trichlorophenol	10	U
95-95-4-----	2,4,5-Trichlorophenol	50	U
91-58-7-----	2-Chloronaphthalene	10	U
88-74-4-----	2-Nitroaniline	50	U
131-11-3-----	Dimethyl Phthalate	10	U
208-96-8-----	Acenaphthylene	10	U
606-20-2-----	2,6-Dinitrotoluene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ENSECO-EAST

Contract: _____

SBLK_01

Lab Code: EEAST Case No.: 13072

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 10APR91AWB

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: G0844

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/08/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

99-09-2-----	3-Nitroaniline	50	U
83-32-9-----	Acenaphthene	10	U
51-28-5-----	2,4-Dinitrophenol	50	U
100-02-7-----	4-Nitrophenol	50	U
132-64-9-----	Dibenzofuran	10	U
121-14-2-----	2,4-Dinitrotoluene	10	U
84-66-2-----	Diethylphthalate	10	U
7005-72-3-----	4-Chlorophenyl-phenylether	10	U
86-73-7-----	Fluorene	10	U
100-10-6-----	4-Nitroaniline	50	U
534-52-1-----	4,6-Dinitro-2-Methylphenol	50	U
86-30-6-----	N-Nitrosodiphenylamine (1)	10	U
101-55-3-----	4-Bromophenyl-phenylether	10	U
118-74-1-----	Hexachlorobenzene	10	U
87-86-5-----	Pentachlorophenol	50	U
85-01-8-----	Phenanthrene	10	U
120-12-7-----	Anthracene	10	U
84-74-2-----	Di-n-Butylphthalate	10	U
206-44-0-----	Fluoranthene	10	U
129-00-0-----	Pyrene	10	U
85-68-7-----	Butylbenzylphthalate	10	U
91-94-1-----	3,3'-Dichlorobenzidine	20	U
56-55-3-----	Benzo(a)Anthracene	10	U
218-01-9-----	Chrysene	10	U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0-----	Di-n-Octyl Phthalate	10	U
205-99-2-----	Benzo(b)Fluoranthene	10	U
207-08-9-----	Benzo(k)Fluoranthene	10	U
50-32-8-----	Benzo(a)Pyrene	10	U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3-----	Dibenz(a,h)Anthracene	10	U
191-24-2-----	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: ENSECO-EAST

Contract: _____

SBLK_01

Lab Code: EEAST Case No.: 13072 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 10APR91AWB

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: G0844

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____ dec. _____

Date Extracted: 04/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/08/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ENSECO-EAST

Contract: _____

SBLK_02

Lab Code: EEAST Case No.: 13072

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13432-MB

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: B1011

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____ dec. _____

Date Extracted: 05/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/14/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

Q

108-95-2-----	Phenol	10	U
111-44-4-----	bis(2-Chloroethyl)Ether	10	U
95-57-8-----	2-Chlorophenol	10	U
541-73-1-----	1,3-Dichlorobenzene	10	U
106-46-7-----	1,4-Dichlorobenzene	10	U
100-51-6-----	Benzyl Alcohol	10	U
95-50-1-----	1,2-Dichlorobenzene	10	U
95-48-7-----	2-Methylphenol	10	U
39638-32-9-----	bis(2-Chloroisopropyl)Ether	10	U
106-44-5-----	4-Methylphenol	10	U
621-64-7-----	N-Nitroso-Di-n-Propylamine	10	U
67-72-1-----	Hexachloroethane	10	U
98-95-3-----	Nitrobenzene	10	U
78-59-1-----	Isophorone	10	U
88-75-5-----	2-Nitrophenol	10	U
105-67-9-----	2,4-Dimethylphenol	10	U
65-85-0-----	Benzoic Acid	50	U
111-91-1-----	bis(2-Chloroethoxy)Methane	10	U
120-83-2-----	2,4-Dichlorophenol	10	U
120-82-1-----	1,2,4-Trichlorobenzene	10	U
91-20-3-----	Naphthalene	10	U
106-47-8-----	4-Chloroaniline	10	U
87-68-3-----	Hexachlorobutadiene	10	U
59-50-7-----	4-Chloro-3-Methylphenol	10	U
91-57-6-----	2-Methylnaphthalene	10	U
77-47-4-----	Hexachlorocyclopentadiene	10	U
88-06-2-----	2,4,6-Trichlorophenol	10	U
95-95-4-----	2,4,5-Trichlorophenol	50	U
91-58-7-----	2-Chloronaphthalene	10	U
88-74-4-----	2-Nitroaniline	50	U
131-11-3-----	Dimethyl Phthalate	10	U
208-96-8-----	Acenaphthylene	10	U
606-20-2-----	2,6-Dinitrotoluene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ENSECO-EAST

Contract: _____

SBLK_02

Lab Code: EEAST Case No.: 13072

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 13432-MB

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: B1011

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____ dec. _____

Date Extracted: 05/10/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/14/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/L
99-09-2-----	3-Nitroaniline	50	U
83-32-9-----	Acenaphthene	10	U
51-28-5-----	2,4-Dinitrophenol	50	U
100-02-7-----	4-Nitrophenol	50	U
132-64-9-----	Dibenzofuran	10	U
121-14-2-----	2,4-Dinitrotoluene	10	U
84-66-2-----	Diethylphthalate	10	U
7005-72-3-----	4-Chlorophenyl-phenylether	10	U
86-73-7-----	Fluorene	10	U
100-10-6-----	4-Nitroaniline	50	U
534-52-1-----	4,6-Dinitro-2-Methylphenol	50	U
86-30-6-----	N-Nitrosodiphenylamine (1)	10	U
101-55-3-----	4-Bromophenyl-phenylether	10	U
118-74-1-----	Hexachlorobenzene	10	U
87-86-5-----	Pentachlorophenol	50	U
85-01-8-----	Phenanthrene	10	U
120-12-7-----	Anthracene	10	U
84-74-2-----	Di-n-Butylphthalate	10	U
206-44-0-----	Fluoranthene	10	U
129-00-0-----	Pyrene	10	U
85-68-7-----	Butylbenzylphthalate	10	U
91-94-1-----	3,3'-Dichlorobenzidine	20	U
56-55-3-----	Benzo(a)Anthracene	10	U
218-01-9-----	Chrysene	10	U
117-81-7-----	bis(2-Ethylhexyl) Phthalate	10	U
117-84-0-----	Di-n-Octyl Phthalate	10	U
205-99-2-----	Benzo(b)Fluoranthene	10	U
207-08-9-----	Benzo(k)Fluoranthene	10	U
50-32-8-----	Benzo(a)Pyrene	10	U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3-----	Dibenz(a,h)Anthracene	10	U
191-24-2-----	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine